WKE

MAY 2023

PROJECT ID: 2715-03-73

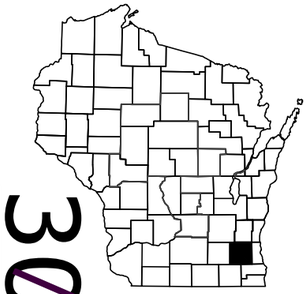
WITH: N/A

COUNTY: WAUKESHA

ORDER OF SHEETS


| | | |
|---|---|---|
| Section No. | 1 | Title |
| Section No. | 2 | Typical Sections and Details |
| Section No. | 3 | Estimate of Quantities |
| Section No. | 3 | Miscellaneous Quantities |
| ~~Section No.~~ | ~~4~~ | ~~Right of Way Plat~~ |
| Section No. | 5 | Plan and Profile |
| Section No. | 6 | Standard Detail Drawings |
| Section No. | 7 | Sign Plates |
| Section No. | 8 | Structure Plans |
| Section No. | 9 | Computer Earthwork Data |
| Section No. | 9 | Cross Sections |


TOTAL SHEETS = 316



30

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

**PLAN OF PROPOSED IMPROVEMENT**

# VARIOUS BRIDGE LOCATIONS

STH 59 & USH 18

## VARIOUS HIGHWAYS
## WAUKESHA COUNTY

| STATE PROJECT NUMBER |
|---|
| 2715-03-73 |

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 2715-03-73 | ——— | ——— |
| | | |
| | | |
| | | |

END PROJECT
STA 297+97

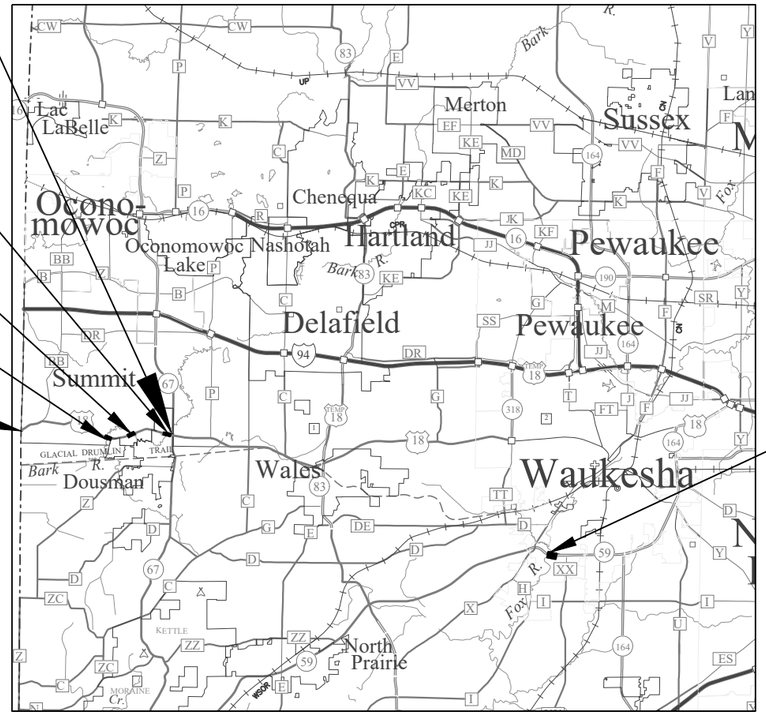
B-67-0379
USH 18 OVER BARK RIVER

B-67-0378
USH 18 OVER BARK RIVER

B-67-0377
USH 18 OVER BARK RIVER

BEGIN PROJECT
STA 72+67.40
X = 600,382.498
Y = 165,873.334

B-67-0152
STH 59 OVER FOX RIVER




| DESIGN DESIGNATION | | USH 18 | STH 59 |
|---|---|---|---|
| A.A.D.T. (2024) | = | 6,200 | 18,500 |
| A.A.D.T. (2044) | = | 7,400 | 22,900 |
| D.H.V. | = | 881 | 2,519 |
| D.D. | = | 59/41 | 59/41 |
| T. | = | 8.8% | 13.7% |
| DESIGN SPEED (MPH) | = | 45-55 | 45 |
| ESALS | = | 1,100,000 | 6,700,000 |

CONVENTIONAL SYMBOLS

PLAN
- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

LAYOUT

SCALE 0 4 MI

TOTAL NET LENGTH OF CENTERLINE = 4.327 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WAUKESHA COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 ( 2012 ). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

ORIGINAL PLANS PREPARED BY

CORRE ENGINEERING




DATE: 1/25/23 Jessica Lewis
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | WISDOT |
| Designer | CORRE, INC. |
| Project Manager | MARK WILFERT |
| Regional Examiner | WILL ANDERSON |
| Regional Supervisor | REEM SHAHIN |

APPROVED FOR THE DEPARTMENT

DATE 2/1/23 Mark Wilfert
(Signature)

E

2

## GENERAL NOTES

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.
2. D.O.T. BRIDGE BENCHMARK MONUMENT TO BE FURNISHED BY THE STATE AND PLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
3. CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE OF CURB AND GUTTER OR THEORETICAL FLANGE POINT OF INTEGRAL CURB AND GUTTER. CURB AND GUTTER RADII ARE MEASURED TO THE FLANGE OF CURB AND GUTTER OR THEORETICAL FLANGE POINT OF INTEGRAL CURB AND GUTTER.
4. FOR INLET AND CATCH BASIN STRUCTURES LOCATED IN THE CURB OR IN FRONT OF BARRIER, STATION, OFFSET, AND ELEVATIONS ARE GIVEN TO THE FLOW LINE. MH STATION, OFFSET, AND ELEVATIONS ARE GIVEN TO THE CENTER OF STRUCTURE. SEE CONSTRUCTION DETAILS.
5. CONTACT THE PROJECT ENGINEER, THE COUNTY SURVEYOR, AND SEWRPC AT LEAST TWO WEEKS BEFORE WORKING NEAR ANY SECTION CORNER MONUMENT.

| SEWRPC CONTACT | SEWRPC CONTACT |
|---|---|
| ROB MERRY | ANDY TRAEGER |
| CHIEF SURVEYOR | CONSTRUCTION COORDINATOR |
| W239 N1812 ROCKWOOD DRIVE | W239 N1812 ROCKWOOD DRIVE |
| P.O. BOX 1607 | P.O. BOX 1607 |
| WAUKESHA, WI 53187-1607 | WAUKESHA, WI 53187-1607 |
| (262) 953-4289 | (262) 953-4296 |
| RMERRY@SEWRPC.ORG | ATRAEGER@SEWRPC.ORG |

6. VERIFY EXISTING PAVEMENT ELEVATIONS AT ALL TIE-INS TO EXISTING PAVEMENT PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IF A DISCREPANCY IS FOUND BETWEEN PROPOSED PLAN ELEVATIONS AND EXISTING PAVEMENT ELEVATIONS.
7. CONSTRUCT PAVEMENT CONSISTENT WITH THE PLAN TYPICAL SECTIONS. LOCATE LONGITUDINAL JOINTS IN ASPHALT PAVEMENT OUTSIDE OF DRIVING, TURNING, BIKE, OR PARKING LANE UNLESS DIRECTED OTHERWISE BY THE ENGINEER PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE, OR PARKING LANE.
8. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING UP CONCRETE WASHOUTS WITHIN THE CLEAR ZONE OF THE ROADWAY.
9. SAWCUT EXISTING ASPHALT AND CONCRETE PAVEMENT AT THE MATCHLINE AS INDICATED ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
10. TINE CONCRETE PAVEMENT LONGITUDINALLY UNLESS OTHERWISE IDENTIFIED IN THE PLAN OR DIRECTED BY THE ENGINEER.
11. RESHAPE, RESTORE AND FINISH ALL PREVIOUSLY GRASSED AREAS DISTURBED BY OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT NO EXPENSE TO THE DEPARTMENT.
12. DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED OR EROSION MATTED AS DIRECTED BY THE ENGINEER.
13. PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD OR MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.
14. WHEN DEFINING THE PAVEMENT STRUCTURE, THE BOTTOM OF THE BASE AGGREGATE DENSE IS CONSIDERED THE SUBGRADE LINE. THE SELECT CRUSHED MATERIAL LAYER IS A SUBGRADE IMPROVEMENT.
15. BACKFILL ALL OPENINGS AND HOLES LOCATED WITHIN THE ROADWAY RESULTING FROM REMOVALS OR ABANDONMENTS WITH GRANULAR BACKFILL UNLESS THE PLANS PROVIDE FOR ALTERNATE BACKFILL.
16. DO NOT REMOVE ANY TREES OR SHRUBS WITHOUT APPROVAL OF THE ENGINEER.
17. ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.
18. EXISTING DRIVEWAYS AND FIELD ENTRANCES SHALL BE RESTORED IN KIND AS DIRECTED BY THE ENGINEER IN THE FIELD AND AT THE LOCATION DETERMINED BY THE ENGINEER.
19. THE EXACT LOCATION OF PRIVATE ENTRANCES IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
20. TOPSOIL SHALL BE REPLACED WITH 4-INCH TYPICAL DEPTH.
21. INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES AND PIPES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.
22. VERIFY THE EXISTING STORM SEWER SYSTEM CONNECTION LOCATIONS AND ELEVATIONS BEFORE ORDERING DRAINAGE STRUCTURES AND PIPES. NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE INFORMATION SHOWN ON THE PLANS BEFORE INSTALLING THE PROPOSED STORM SEWER.
23. ALL EXPOSED SOIL OR SUBGADE AREAS WILL BE PERMANENTLY RESTORED (WITHIN 7-DAYS) OR FINISHED WITH THE PROPER SEED MIX AND EROSION CONTROL DEVICES OR STONE/PAVED OR TEMPORARILY SEEDED AND MULCHED WITHIN 24-HOURS OF ANY DISTURBANCE.
24. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.
25. EROSION CONTROL DEVICES ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE EROSION CONTROL DEVICE IS NO LONGER REQUIRED.
26. THE TRAFFIC CONTROL LOCATIONS SHOWN IN THE PLANS ARE SUGGESTED LOCATIONS, EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.

## HMA PAVEMENT TYPE AND THICKNESSES

| | | | |
|---|---|---|---|
| STH 59 | | | |
| 4" | | 3 LT 58-28 S | UPPER LAYER |
| USH 18 | | | |
| 2" | | 4 LT 58-28 S | UPPER LAYER |
| 6 1/4" | 4" | 3 LT 58-28 S | LOWER LAYER |
| | 2 1/4" | 4 LT 58-28 S | UPPER LAYER |

## SECTION 2 ORDER OF SHEETS


GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL
SIGNING
PAVEMENT MARKING
TRAFFIC CONTROL
DETOUR PLAN


## STANDARD ABBREVIATIONS

| | |
|---|---|
| AP | ACCESS POINT |
| AC | ACRE |
| AGG | AGGREGATE |
| ASPH | ASPHALTIC |
| BL | BASELINE |
| BM | BENCH MARK |
| CB | CATCH BASIN |
| CL | CENTER LINE |
| CONC | CONCRETE |
| CO | COUNTY |
| CABC | CRUSHED AGGREGATE BASE COURSE |
| CY | CUBIC YARD |
| CULV | CULVERT |
| CP | CULVERT PIPE |
| C&G | CURB AND GUTTER |
| DIA | DIAMETER |
| DWY | DRIVEWAY |
| EB | EASTBOUND |
| ELEV | ELEVATION |
| EW | ENDWALL |
| ENT | ENTRANCE |
| EXC | EXCAVATION |
| FP | FENCE POST |
| FERT | FERTILIZE |
| F | FILL |
| FG | FINISHED GRADE |
| FL | FLOW LINE |
| FO | FIBER OPTIC |
| FT | FOOT |
| HYD | HYDRANT |
| INL | INLET |
| NTERS | INTERSECTION |
| INV | INVERT |
| JT | JOINT |
| LT | LEFT |
| LF | LINEAR FOOT |
| MH | MANHOLE |
| MP | MARKER POST |
| MB | MESSAGE BOARD |
| NOM | NOMINAL |
| NB | NORTHBOUND |
| PAVT | PAVEMENT |
| PERM | PERMENANT |
| PU | PIPE UNDERDRAIN |
| PCC | PORTLAND CEMENT CONCRETE |
| PE | PRIVATE ENTRANCE |
| PROJ | PROJECT |
| PL | PROPERTY LINE |
| RL | REFERENCE LINE |
| RT | RIGHT |
| R/W | RIGHT OF WAY |
| RDWY | ROADWAY |
| SHLDR | SHOULDER |
| SB | SOUTHBOUND |
| SS | STORM SEWER |
| TEL | TELEPHONE |
| TEMP | TEMPORARY |
| TER | TERRACE |
| TV | TELEVISION |
| UG | UNDERGROUND |
| VOL | VOLUME |
| W | WATER |
| WB | WESTBOUND |

## UTILITY CONTACTS

### COMMUNICATIONS

MATTHEW DINNAUER
AT&T WISCONSIN
435 SOUTH 95TH STREET
MILWAUKEE, WI 53214-1226
262--237-0042
MD9542@ATT.COM

### COMMUNICATIONS

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324 E WISCONSIN AVE
SUITE 730
MILWAUKEE, WI 53202
414-522-6685
SGARCIA@EVERSTREAM.NET

### COMMUNICATIONS

CORY SCHMUKI
MIDWEST FIBER NETWORKS
6070 NORTH FLINT ROAD
GLENDALE, WI 53209
414-459-3561
CSCHMUKI@MIDWESTFIBERNETWORKS.COM

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SPECTRUM
1320 N. DR. MARTIN LUTHER KING
JR DRIVE
MILWAUKEE, WI 53212
414--430-7189
NEAL.LONG@CHARTER.COM

### ELECTRIC

STEVEN J. KING
WE ENERGIES - ELECTRIC
S13 W33800 HWY 18
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414-968-5768
STEVE.KING@WE-ENERGIES.COM

### COMMUNICATIONS

LORI KETTER
WINDSTREAM
314 N. DANZ AVENUE
GREEN BAY, WI 54302-3526
920-410-6902
LORI.KETTER@WINDSTREAM.COM

### COMMUNICATIONS

JAMES WINTER
BRIGHTSPEED OF WESTERN
WISCONSIN, LLC
224 INDUSTRIAL DRIVE
NORTH PRAIRIE, WI 53153
262-392-5210
JAMES.WINTER@LUMEN.COM

### SEWER

KAMRON NASH
GENESEE LAKE
37100 DELAFIELD RD
SUMMIT, WI 53066
262-567-2757
PWDIRECTOR@SUMMITVILLAGE.ORG

### COMMUNICATIONS

JULIE PAULSON
ROGERS TELECOM
4804 N 40TH STREET
SHEBOYGAN, WI 53083
920-459-2600
JPAULSON@GABES.COM

### WATER

JOE KITELINGER
VILLAGE OF DOUSMAN UTILITIES
118 S. MAIN ST.
P.O. BOX 264
DOUSMAN, WI 53118
262-965-3302

### GAS

JOE WOOD
WE ENERGIES - GAS
S13 W33800 HWY 18
DELAFIELD, WI 53018
262-365-6413
JOE.WOOD@WE-ENERGIES.COM

DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

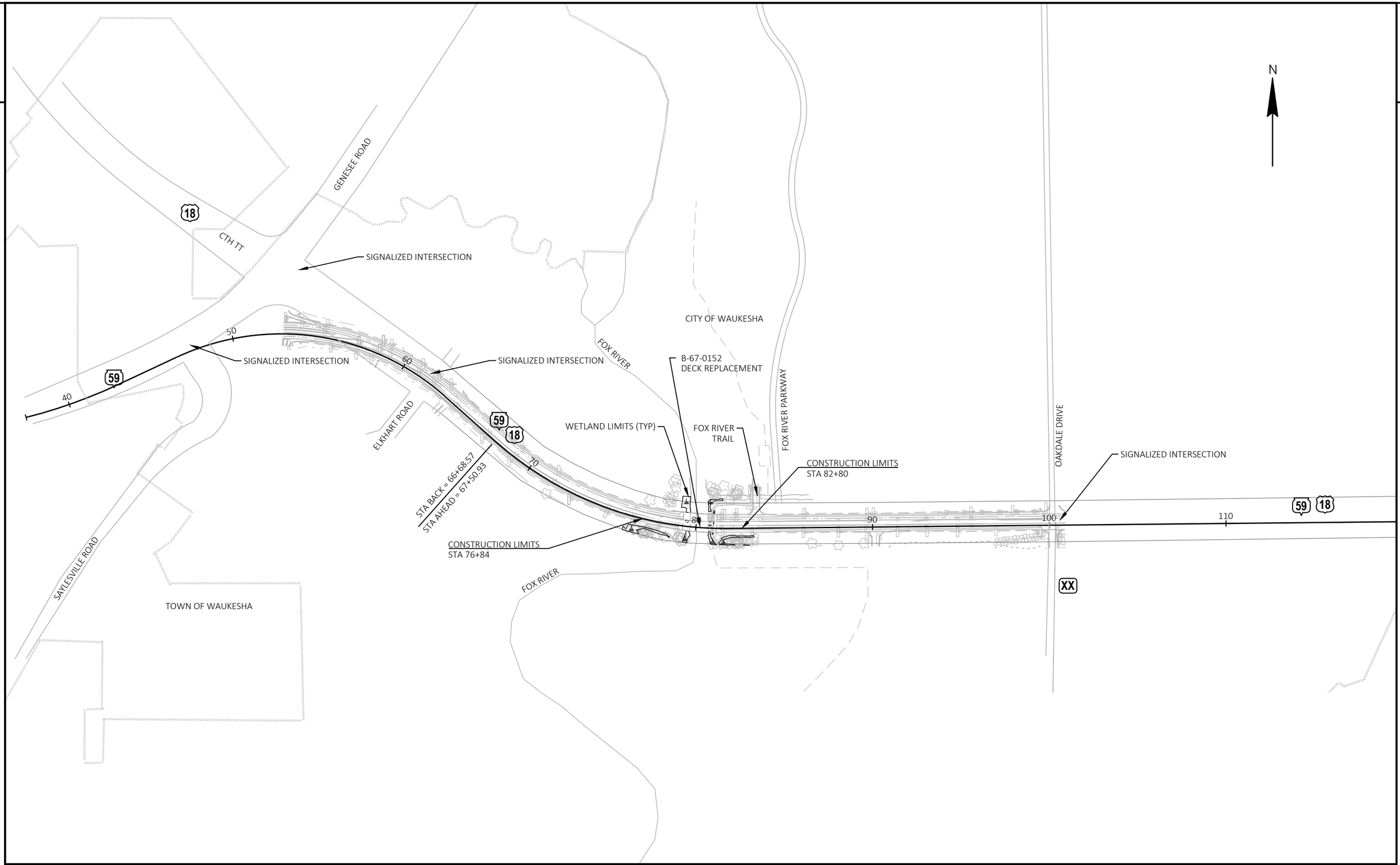
### DNR LIASON

CRAIG WEBSTER
141 NW BARSTOW STREET
WAUKESHA, WI 53188
262-574-2141
CRAIG.WEBSTER@WISCONSIN.GOV

### CITY OF WAUKESHA

DAVID BUECHL
201 DELAFIELD STREET
WAUKESHA, WI
DBUECHL@WAUKESHA-WI.COM

2




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PROJECT OVERVIEW - STH 59 | SHEET 3 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 01
PLOT DATE : 1/27/2023 1:20 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : ############
WISDOT/CADDS SHEET 42

2

GOLDEN LAKE

CTH BB

N

80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230

18

BEGIN PROJECT
STA 72+67

JEFFERSON COUNTY

WAUKESHA COUNTY

BARK RIVER

B-67-0025/B-67-377
BRIDGE REPLACEMENT

END RESURFACE
BEGIN RECONSTRUCT
STA 203+86

END RECONSTRUCT
BEGIN RESURFACE
STA 210+17

WETLAND LIMITS (TYP)

GRAMLING LANE

N

S DOUSMAN ROAD

VILLAGE OF SUMMIT

VILLAGE OF DOUSMAN

67

B-67-0026/B-67-378
BRIDGE REPLACEMENT

END RECONSTRUCT
BEGIN RESURFACE
STA 242+53

END RESURFACE
BEGIN RECONSTRUCT
STA 288+71

BARK RIVER

B-67-0027/B-67-379
BRIDGE REPLACEMENT

END PROJECT
STA 297+97

240 250 260 270 280 290 300 310 320 330 340 350 360 370

18

S UTICA ROAD

BARK RIVER

E MAIN STREET

HISTORICAL BUILDING

END RESURFACE
BEGIN RECONSTRUCT
STA 236+81

END RECONSTRUCT
BEGIN RESURFACE
STA 293+99

VILLAGE OF DOUSMAN

VILLAGE OF SUMMIT

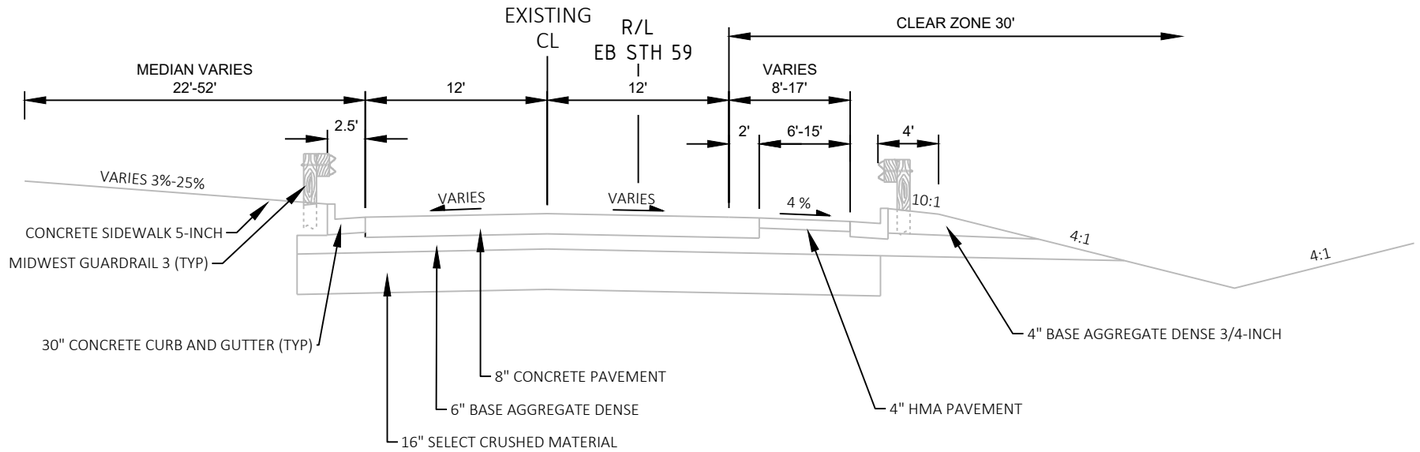
| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PROJECT OVERVIEW - USH 18 | SHEET 4 | E |
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LAYOUT NAME - 02

PLOT DATE : 1/27/2023 1:20 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:1000 FT

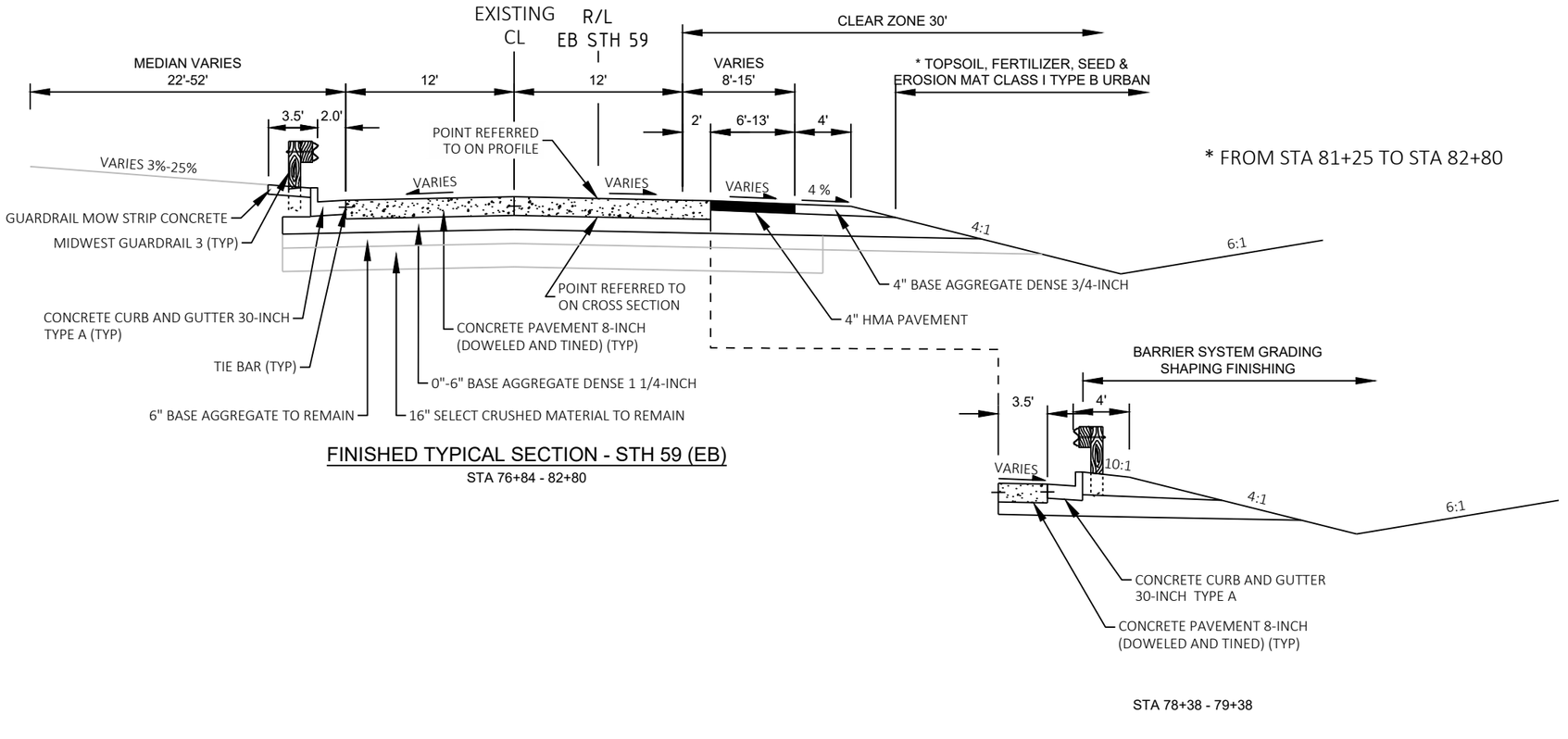
WISDOT/CADDS SHEET 42

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## EXISTING TYPICAL SECTION - STH 59 (EB)

STA 76+84 - 82+80




* FROM STA 81+25 TO STA 82+80

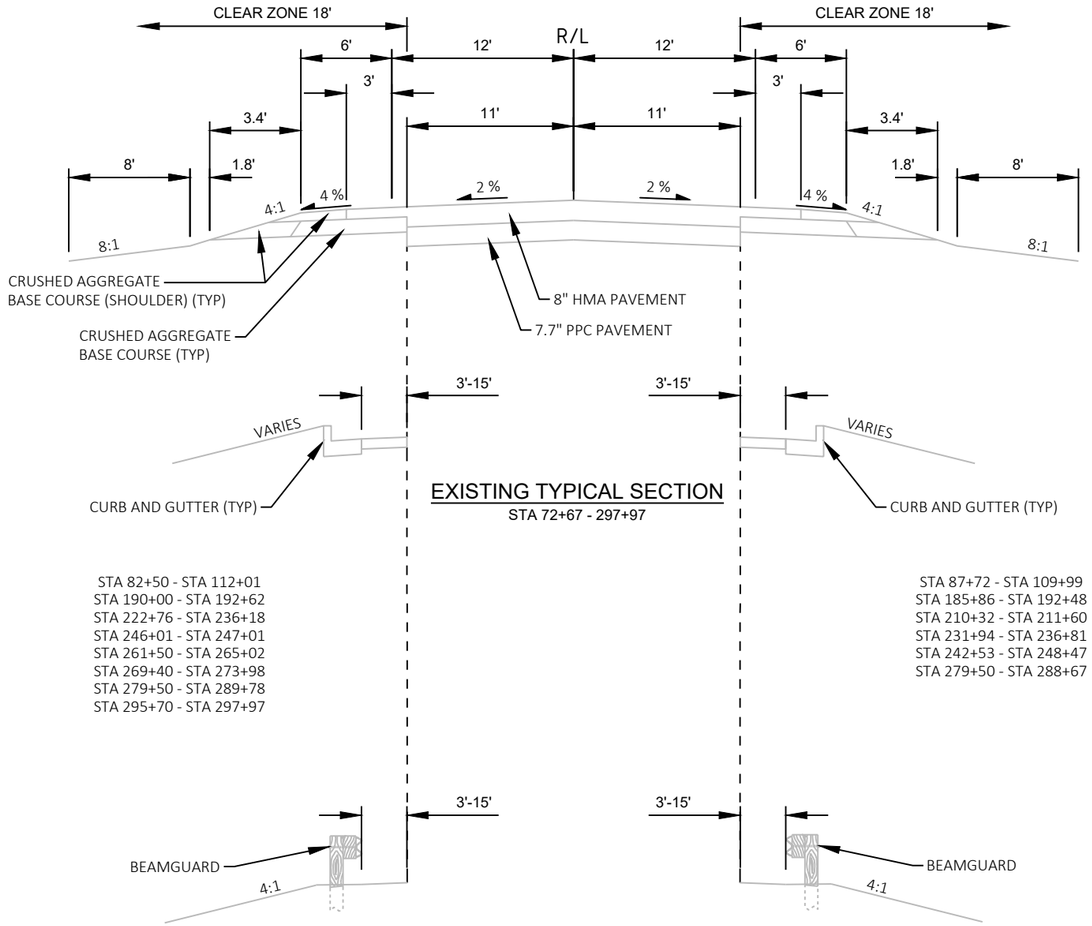
## FINISHED TYPICAL SECTION - STH 59 (EB)

STA 76+84 - 82+80

STA 78+38 - 79+38

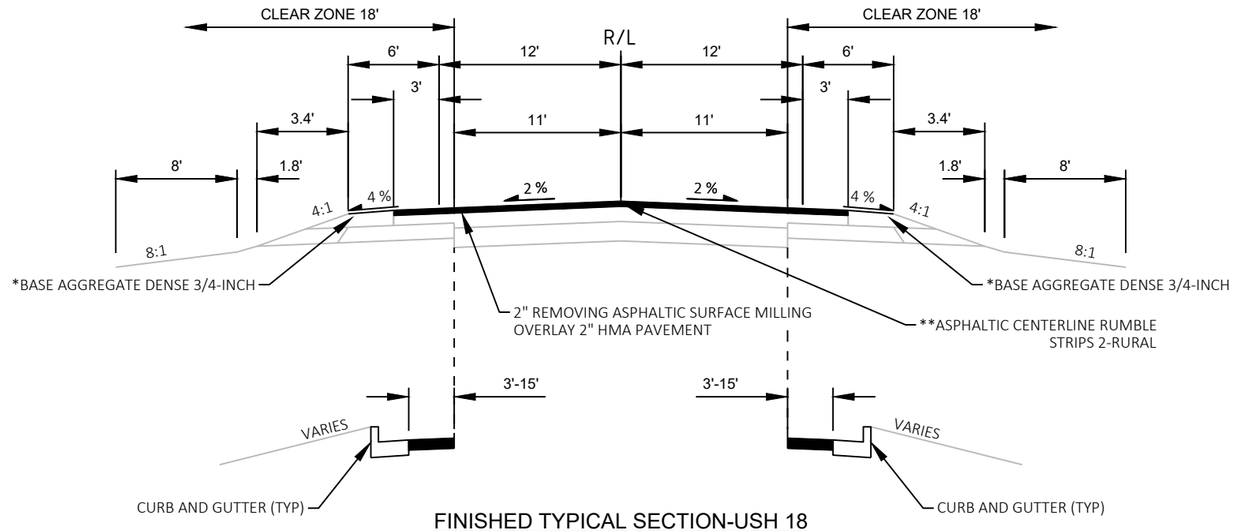
| PROJECT NO: 2715-03-73 | HWY: USH 18 | COUNTY: WAUKESHA | PLAN: TYPICAL SECTIONS | SHEET 5 | E |
|---|---|---|---|---|---|

2




| PROJECT NO: 2715-03-73 | HWY: USH 18, STH 59, STH 83 | COUNTY: WAUKESHA | PLAN: TYPICAL SECTIONS | SHEET 6 | E |
|---|---|---|---|---|---|

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## FINISHED TYPICAL SECTION-USH 18

STA 72+67 - 203+86
STA 210+17 - 236+55
STA 242+53 - 288+71
STA 295+00 - 297+97

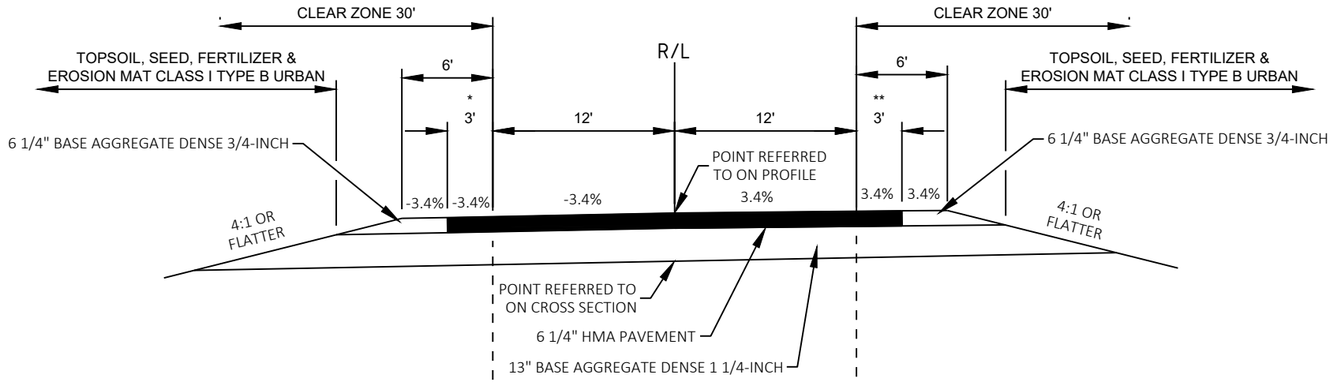
STA 82+50 - STA 112+01
STA 190+00 - STA 192+62
STA 222+76 - STA 236+18
STA 246+01 - STA 247+01
STA 261+50 - STA 265+02
STA 269+40 - STA 273+98
STA 279+50 - STA 288+71
STA 295+71 - STA 297+97

STA 87+72 - STA 109+99
STA 185+86 - STA 192+48
STA 210+32 - STA 211+60
STA 231+94 - STA 236+81
STA 242+53 - STA 248+47
STA 279+50 - STA 288+71

* DEPTH VARIES, MATCH PAVEMENT ELEVATION INTO EXISTING SHOULDER, 6% MAX GRADE

** STA 115+00 STA 203+86

2

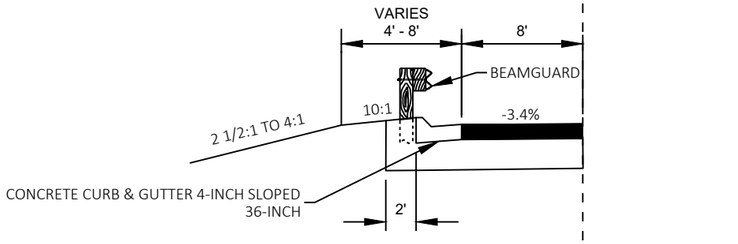



FINISHED TYPICAL SECTION-USH 18

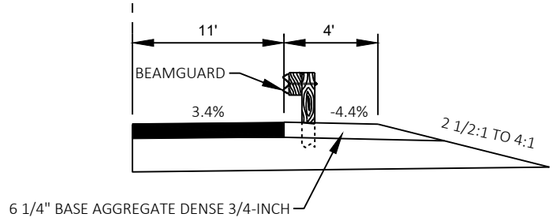
STA 203+86 - 210+17

* STA 208+86 to STA 210+17
SHOULDER TRANSITION FROM 3' TO 11' FOR LEFT BYPASS LANE

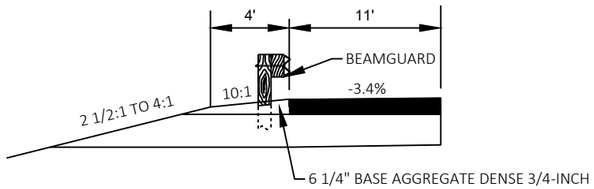
** STA 203+86 TO STA 204+40
SHOULDER TRANSITION FROM 3' TO 11' FOR RIGHT TURN LANE




STA 204+64 - 206+19 LT



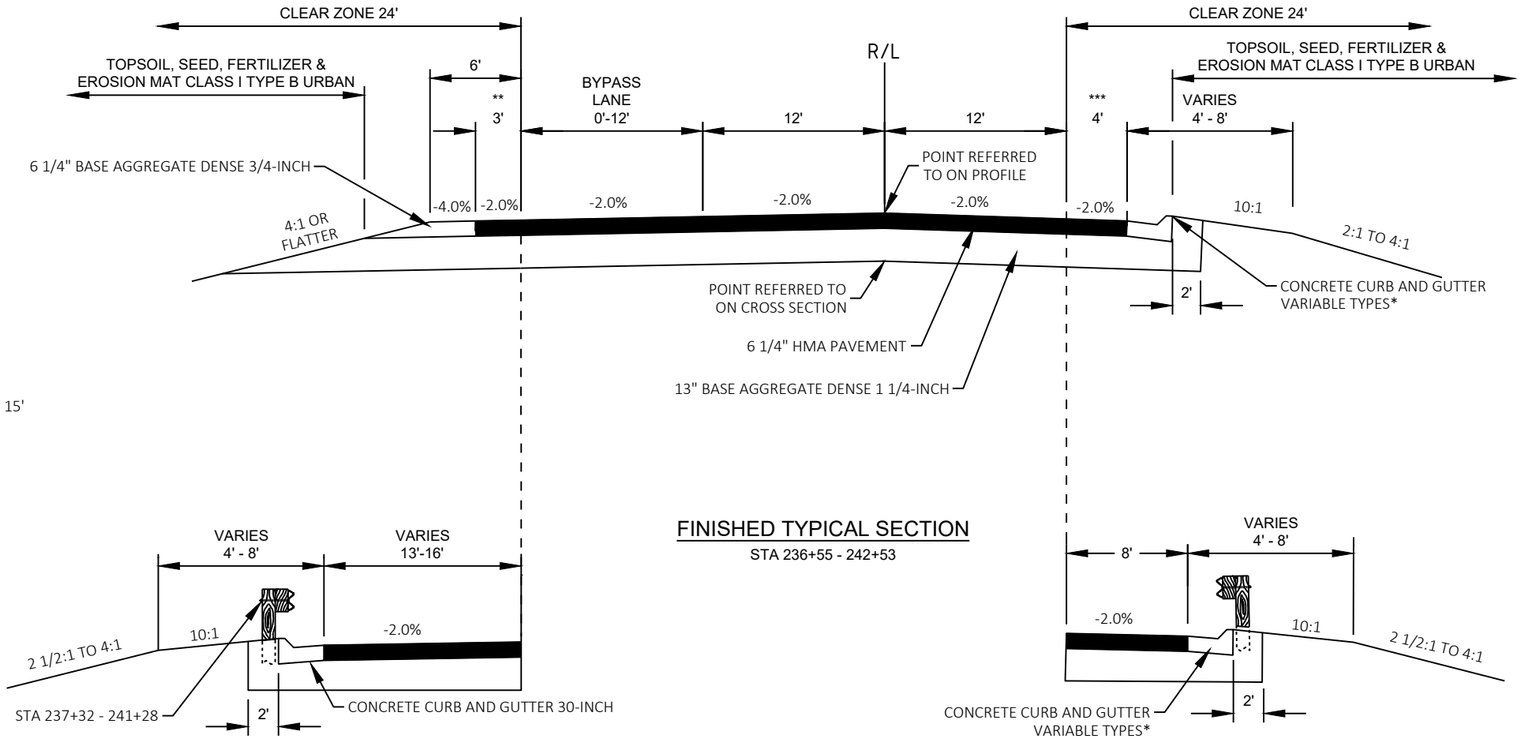

STA 204+40 - 206+20 RT
STA 207+05 - 208+60 RT




STA 207+06 - 208+86 LT

| PROJECT NO: 2715-03-73 | HWY: USH 18 | COUNTY: WAUKESHA | PLAN: TYPICAL SECTIONS | SHEET 8 | E |
|---|---|---|---|---|---|

2




** STA 240+28 to STA 242+53
SHOULDER TRANSITION FROM 15' TO 3' FOR LEFT BYPASS LANE

*CURB AND GUTTER STATION LIMITS

6-INCH SLOPED 30-INCH
STA 236+55 - 238+84 RT

6-INCH SLOPED 30-INCH
STA 239+76 - 242+53 RT

*** STA 240+28 to STA 241+53
SHOULDER TRANSITION FROM 11' TO 4'

## FINISHED TYPICAL SECTION

STA 236+55 - 242+53

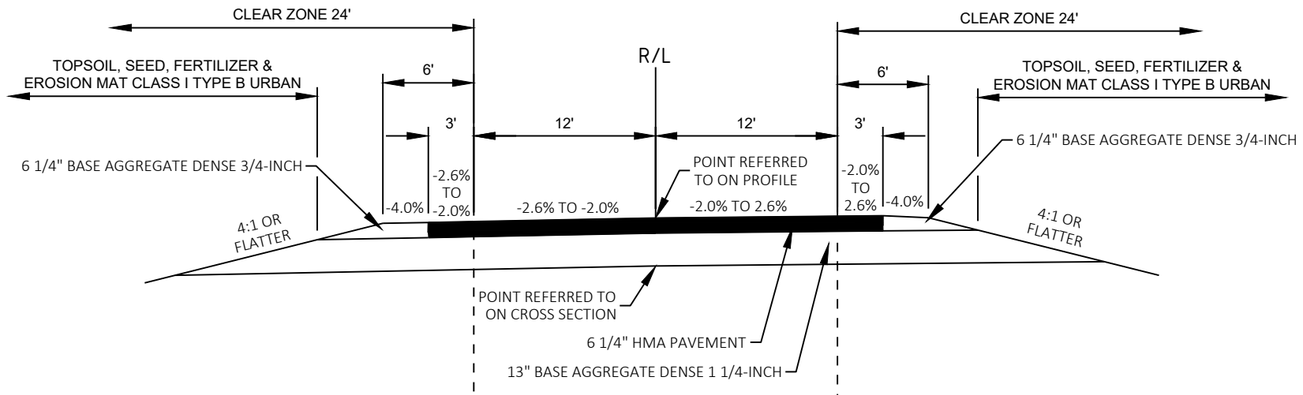



STA 236+19 - 238+69 LT
STA 239+91 - 240+28 LT



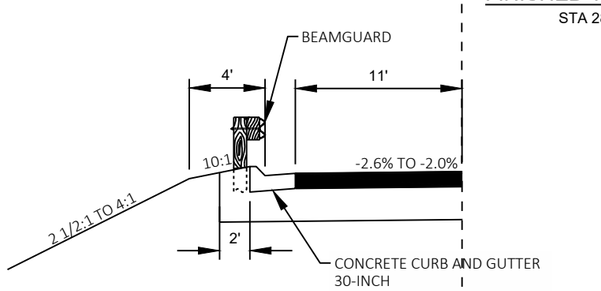

STA 237+82 - 238+69 RT
STA 239+91 - 240+78 RT

2

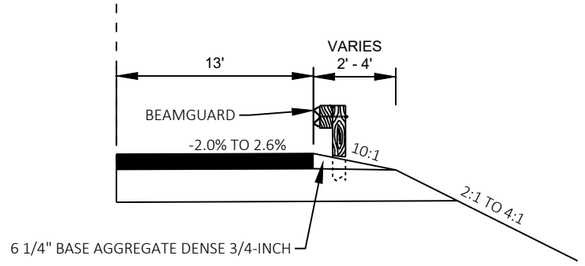



## FINISHED TYPICAL SECTION

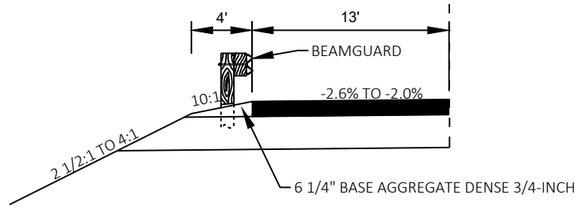
STA 288+71 - 295+00




STA 288+71 - 290+07 LT



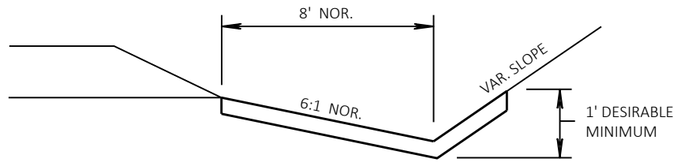

STA 289+27 - 291+02 RT
STA 292+24 - 293+61 RT



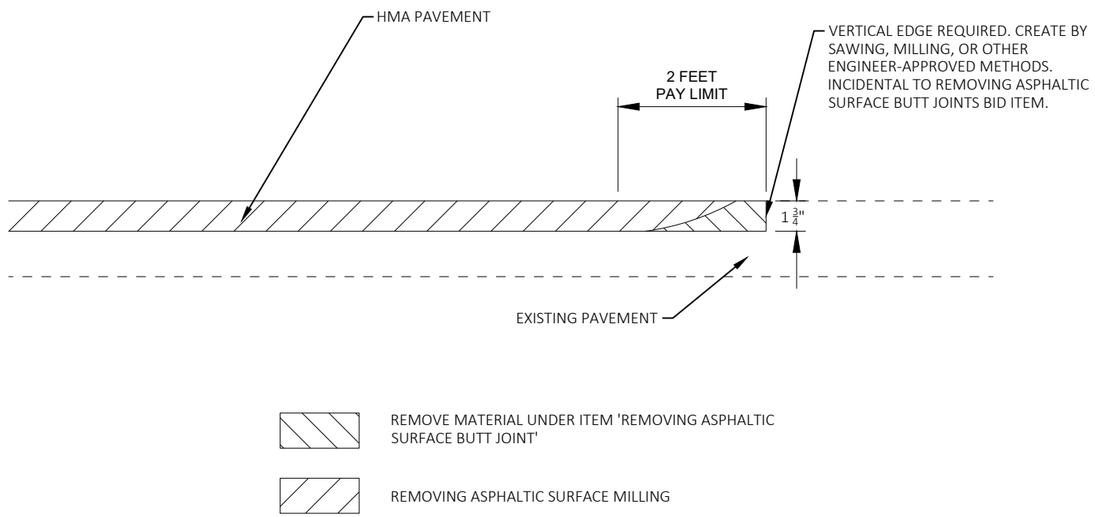

STA 290+07 - 291+02 LT
STA 292+24 - 293+61 LT

| PROJECT NO: 2715-03-73 | HWY: USH 18, STH 59, STH 83 | COUNTY: WAUKESHA | PLAN: TYPICAL SECTIONS | SHEET 10 | E |
|---|---|---|---|---|---|

2

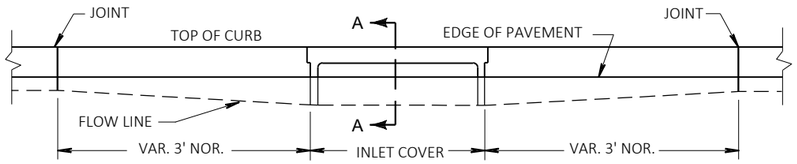



EROSION MAT DETAIL FOR DITCHES

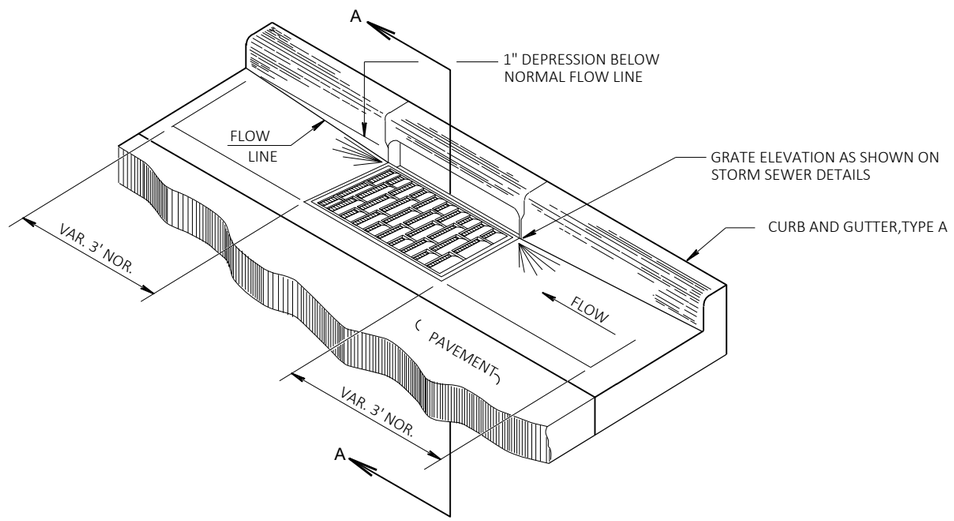


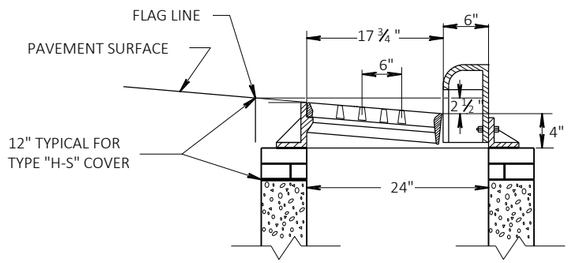

BUTT JOINT - NO CHANGE IN PROFILE

2




ELEVATION



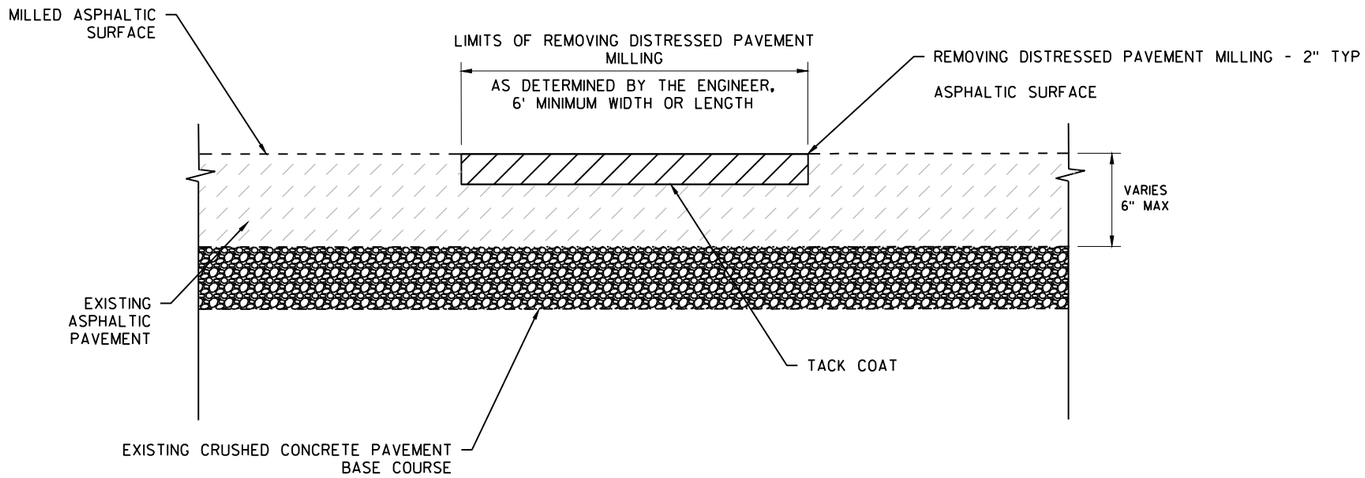




SECTION A-A

## DETAIL OF CURB AND GUTTER AT INLETS

(TYPE 2X3- H-S INLET SHOWN)

2




## REMOVING DISTRESSED PAVEMENT MILLING

NOTES:

MILL EXISTING SURFACE 2" PER TYPICAL SECTION PRIOR TO REMOVING DISTRESSED PAVEMENT.

REMOVE DISTRESSED PAVEMENT BY MILLING 2" INCREMENTS.

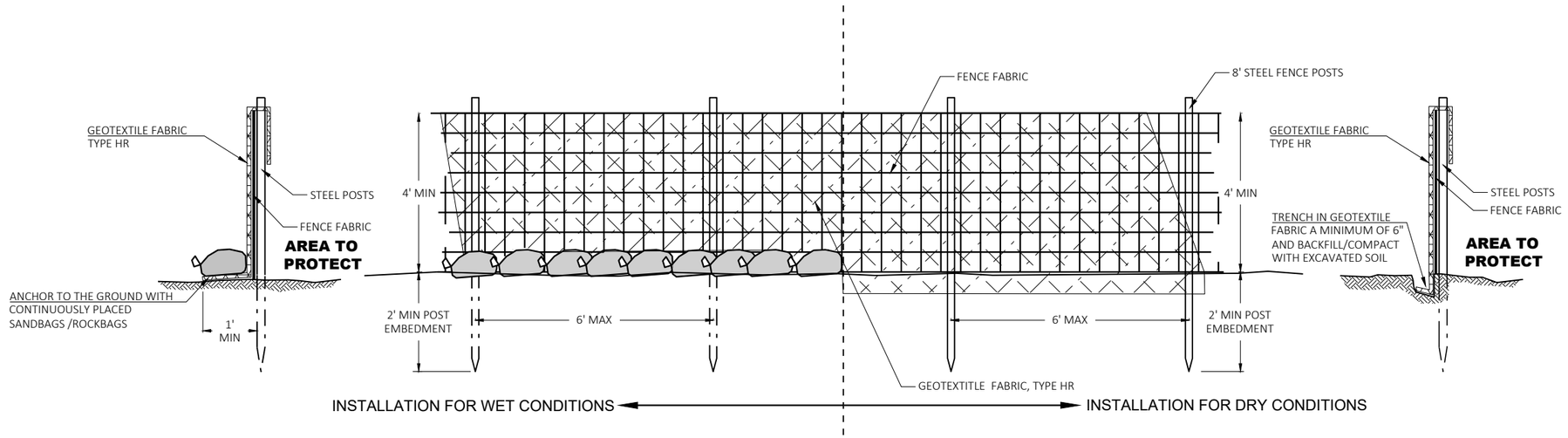
PLACE ASPHALTIC SURFACE USING ENGINEER-APPROVED MACHINE METHODS AS DESCRIBED IN STANDARD SPEC 465.3

COMPACT USING ORDINARY COMPACTION PROCEDURE DESCRIBED IN STANDARD SPEC 450.3.2.6.

LIMITS OF DISTRESSED PAVEMENT MILLING TO BE REMOVED AND PAVED IN SAME DAY.

FINAL LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

2

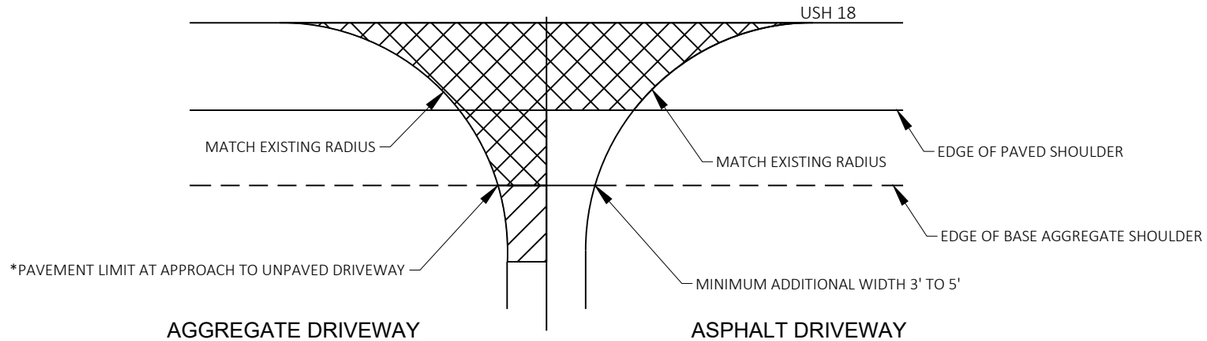



## SILT FENCE HEAVY DUTY

GENERAL NOTES:

1. ATTACH FENCE FABRIC TO POSTS A MINIMUM OF 3 TIES PER POST (TOP, MIDDLE, BOTTOM)
2. ATTACH GEOTEXTILE FABRIC TO FENCE FABRIC AND/OR POSTS AT A MAXIMUM SPACING OF EVERY 2 FEET ALONG THE TOP AND ADDITIONALLY AS NECESSARY TO PREVENT DISPLACEMENT BY WIND AND WAVE ACTIONS.

2




AGGREGATE DRIVEWAY

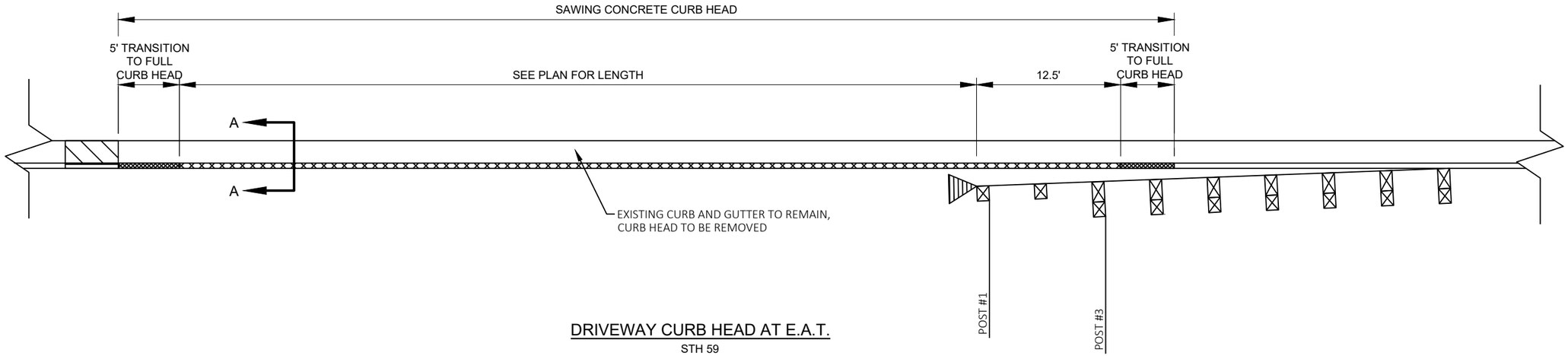
ASPHALT DRIVEWAY

*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT

REMOVING 2" ASPHALTIC SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT

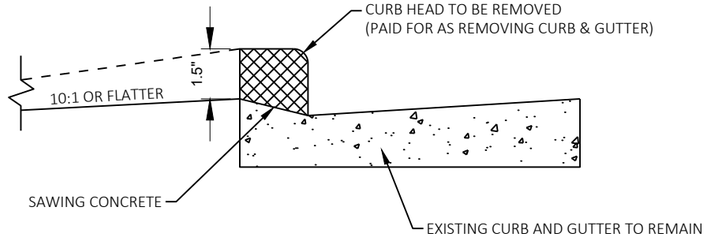
BASE AGGREGATE DENSE 3/4-INCH AS NECESSARY

## DRIVEWAYS




## DRIVEWAY CURB HEAD AT E.A.T.

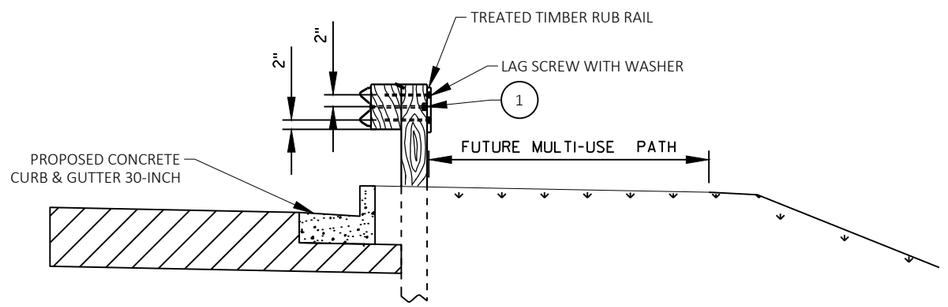
STH 59
STA 75+84 TO STA 77+06




## SECTION A-A

NOTES:

EXCAVATION COMMON, TOPSOIL, EROSION MAT, FERTILIZER, AND SEEDING WILL BE PAID AS SEPARATELY UNDER APPROPRIATE BID ITEMS.

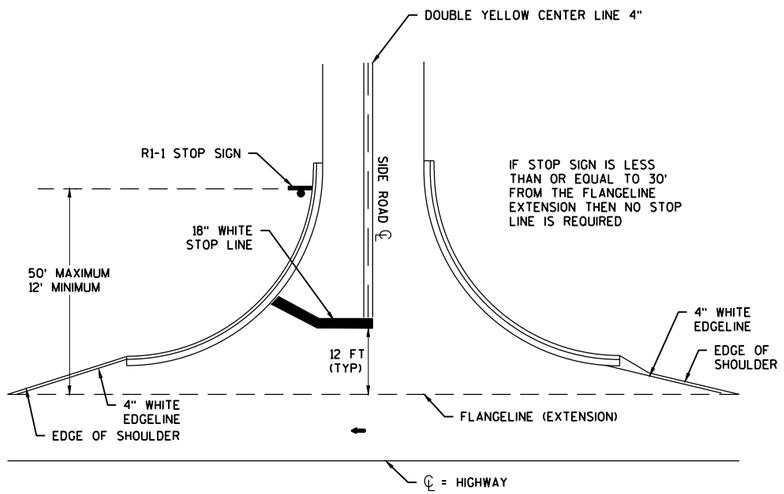



## TREATED TIMBER RUB RAIL DETAIL AT BEAMGUARD

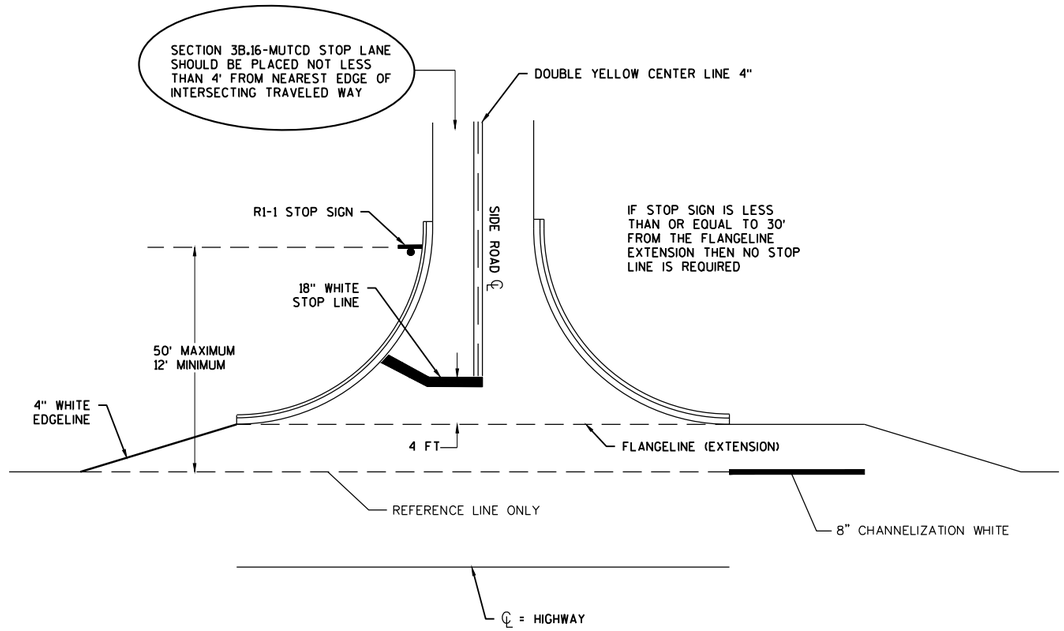
STA 77+85 - STA 79+39, RT

(1) ALL CARRIAGE BOLTS & LAG SCREWS USED IN CONSTRUCTION WITHIN THE STATION RANGE ABOVE SHALL BE COUNTERSUNK TO CLEAR SCREW HEAD OR BOLT NUT.

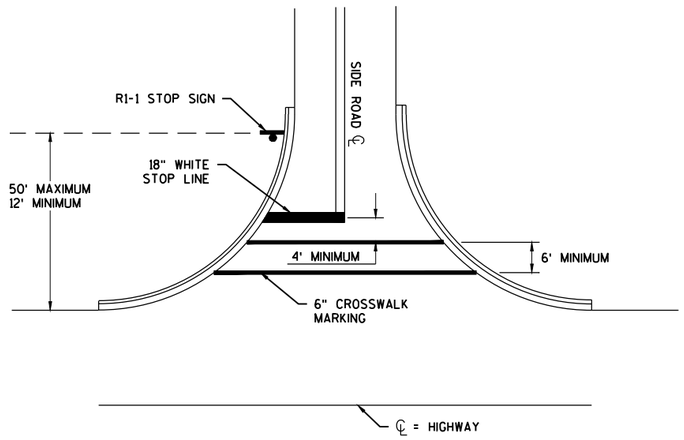
(2) 2"x10" TREATED TIMBER RUB RAIL REQUIRED WITHIN STATION RANGE ABOVE. DO NOT PLACE ON ENERGY ABSORBING TERMINAL.




TYPICAL PAVEMENT MARKING FOR SIDEROADS




TYPICAL PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



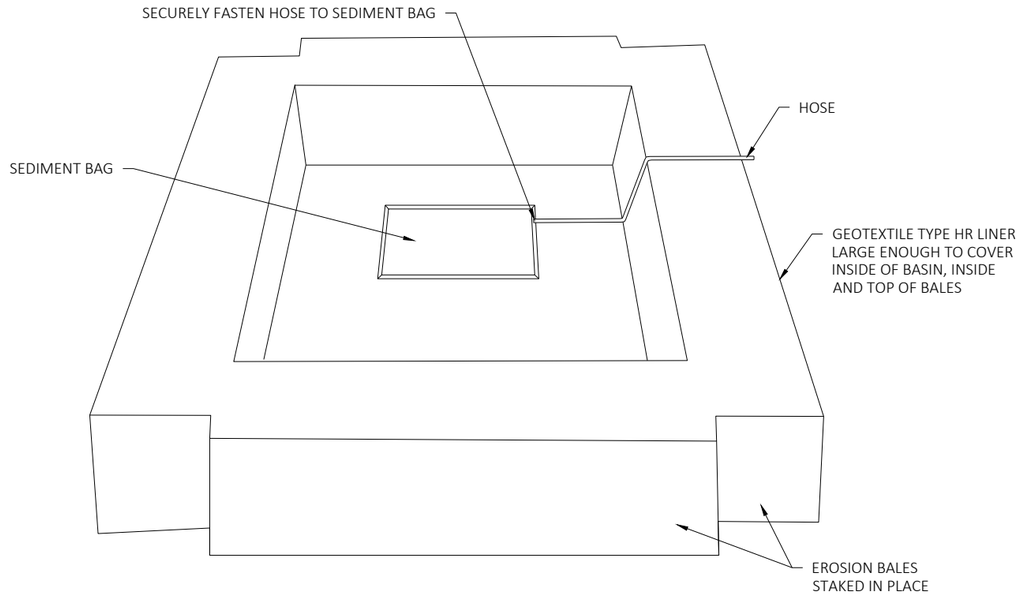

TYPICAL PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

NOTES:
18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

STOP LINES REQUIRED WHERE:

- CROSSWALK MARKINGS EXIST OR BEING PROVIDED
- LARGE RADII
- OFFSET LEFT TURNS WHERE STOP BAR FOR LEFT TURN IS SET BACK FROM THRU MOVEMENT.

2

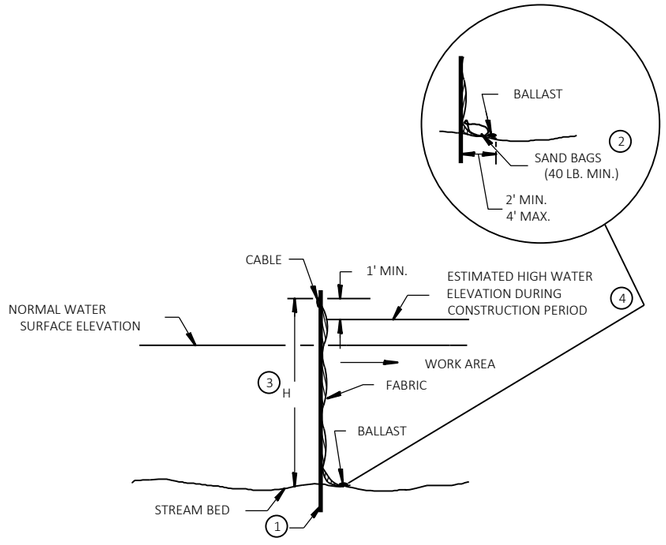



NOTES

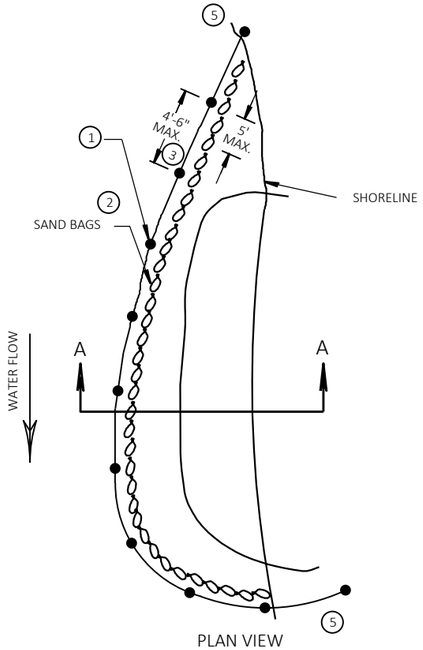
1. CONTRACTOR SHALL PUMP TURBID WATER FROM EXCAVATION TO SEDIMENT BAG PLACED INSIDE FABRIC LINED STAKED BALE ENCLOSURE PRIOR TO DISCHARGING TO DITCHES/INLETS/WETLANDS OR WATERWAYS.
2. SEDIMENT BAG TO BE PLACED IN AN UPLAND VEGETATED AREA OR EQUIVALENT LOCATION APPROVED BY THE ENGINEER.
3. BASIN TO BE KEPT LESS THAN 10% FULL OF SEDIMENT. GEOTEXTILE FABRIC AND SEDIMENTS TO BE DISPOSED BY THE CONTRACTOR OFF OF THE PROJECT SITE.
4. TEMPORARY SETTLING BASIN AND SEDIMENT BAG TO BE INCIDENTAL TO CONTRACT.
5. SEDIMENT BAG, BALES AND FABRIC TO BE REPLACED AS NECESSARY AND IS INCIDENTAL TO CONTRACT.
6. SIZE TO BE DETERMINED BY THE CONTRACTOR AS PART OF THE ECIP SUBMITTAL.

EXAMPLE TEMPORARY SETTLING BASIN DETAIL

2




SECTION A-A




PLAN VIEW

NOTES:
DETAILS OF THE CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SANDBAGS OR ROCK BAGS SHALL BE USED AS ADDITIONAL BALLAST. PLACE CONTINUOUSLY WITH NO GAPS. SAND OR ROCK BAGS ARE INCIDENTAL TO THE BID ITEM "ENHANCED TURBIDITY BARRIER".

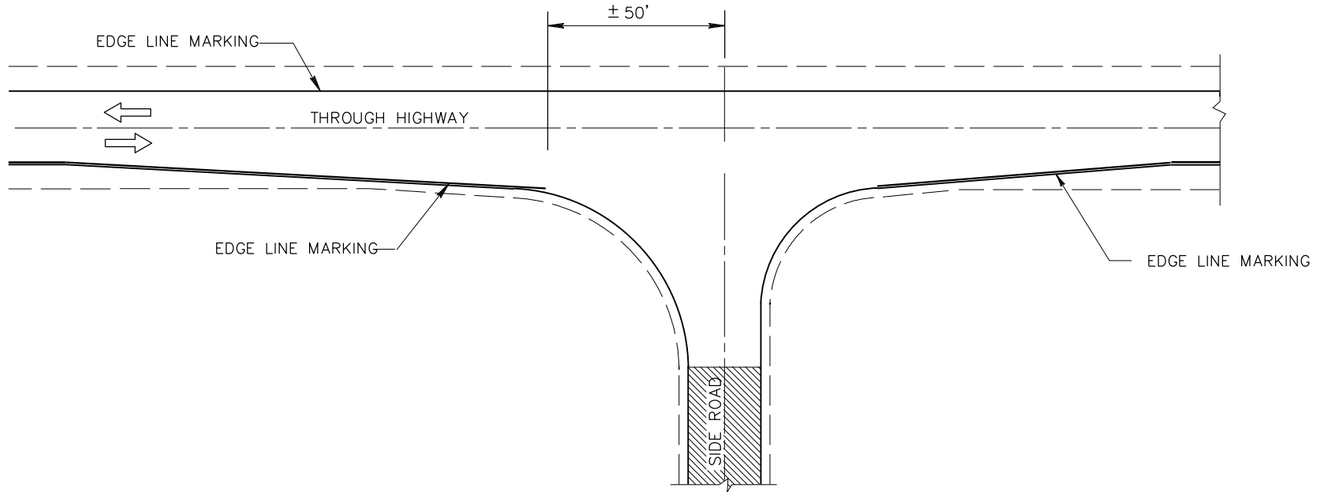
(3) WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

(4) ESTIMATED HIGH WATER ELEVATIONS DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 1' GREATER THAN THE OBSERVED WATER ELEVATION AT THE TIME OF CONSTRUCTION.

(5) ENDS OF BARRIER ARE TO BE TRENCHED INTO THE SHORELINE OR CONNECTED CONTINUOUSLY TO THE CONCRETE WALLS TO FULLY ISOLATE THE IN-WATER WORK ZONE.

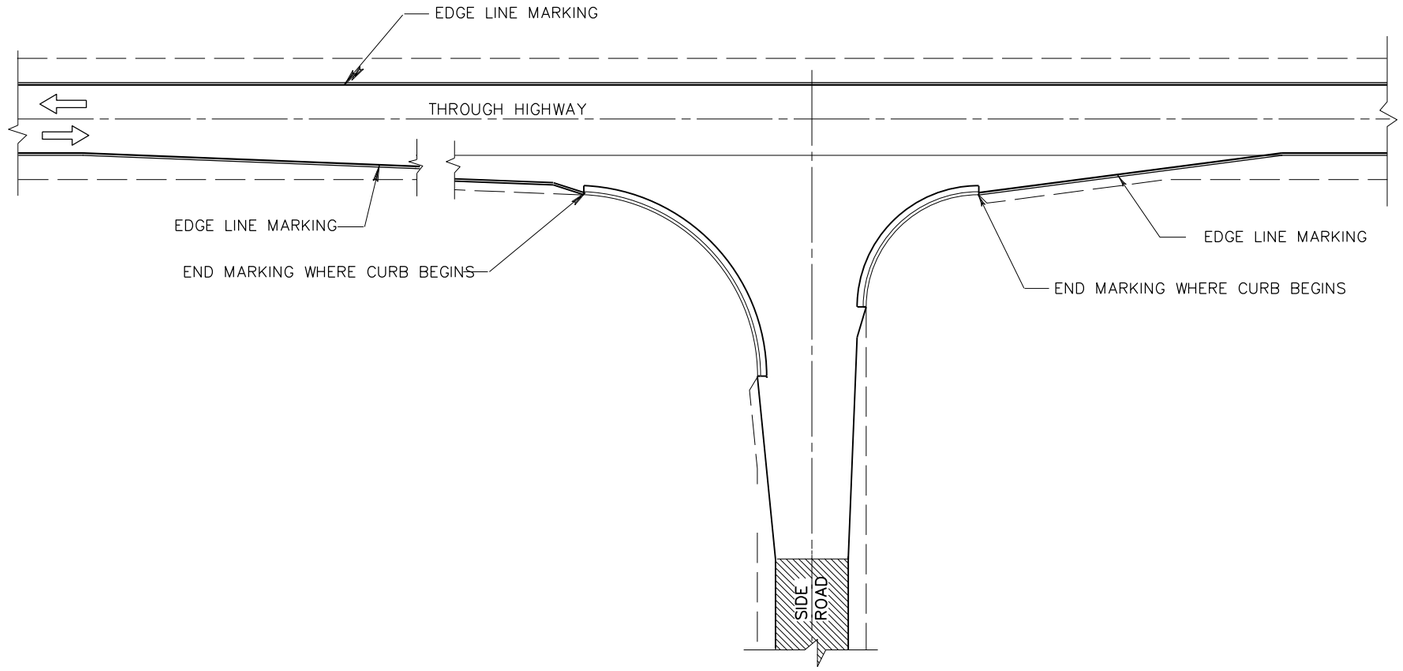
## ENHANCED TURBIDITY BARRIER DETAIL

2




MINOR INTERSECTION WITHOUT CURBS

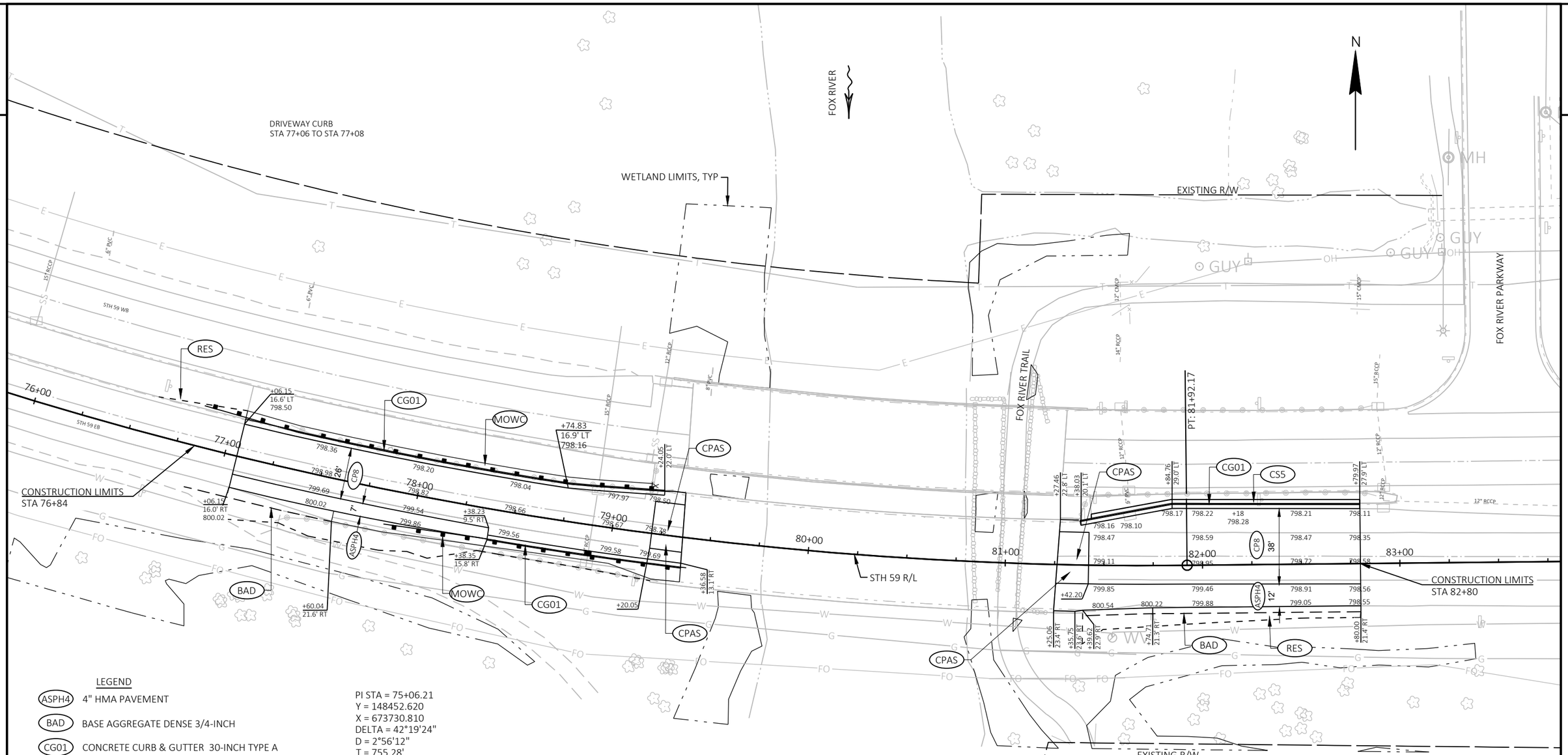
(TYPICAL MARKING)




MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)

2




LEGEND

| | |
|---|---|
| ASPH4 | 4" HMA PAVEMENT |
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| CG01 | CONCRETE CURB & GUTTER 30-INCH TYPE A |
| CP8 | CONCRETE PAVEMENT 8-INCH |
| CS5 | CONCRETE SIDEWALK 5-INCH |
| CPAS | CONCRETE PAVEMENT APPROACH SLAB |
| MOWC | GUARDRAIL MOW STRIP CONCRETE |
| RES | RES - RESTORE WITH TOPSOIL, MULCH, FERTILIZER TYPE B, SEEDING MIX NO. 30 |
| – – – | SLOPE INTERCEPT |

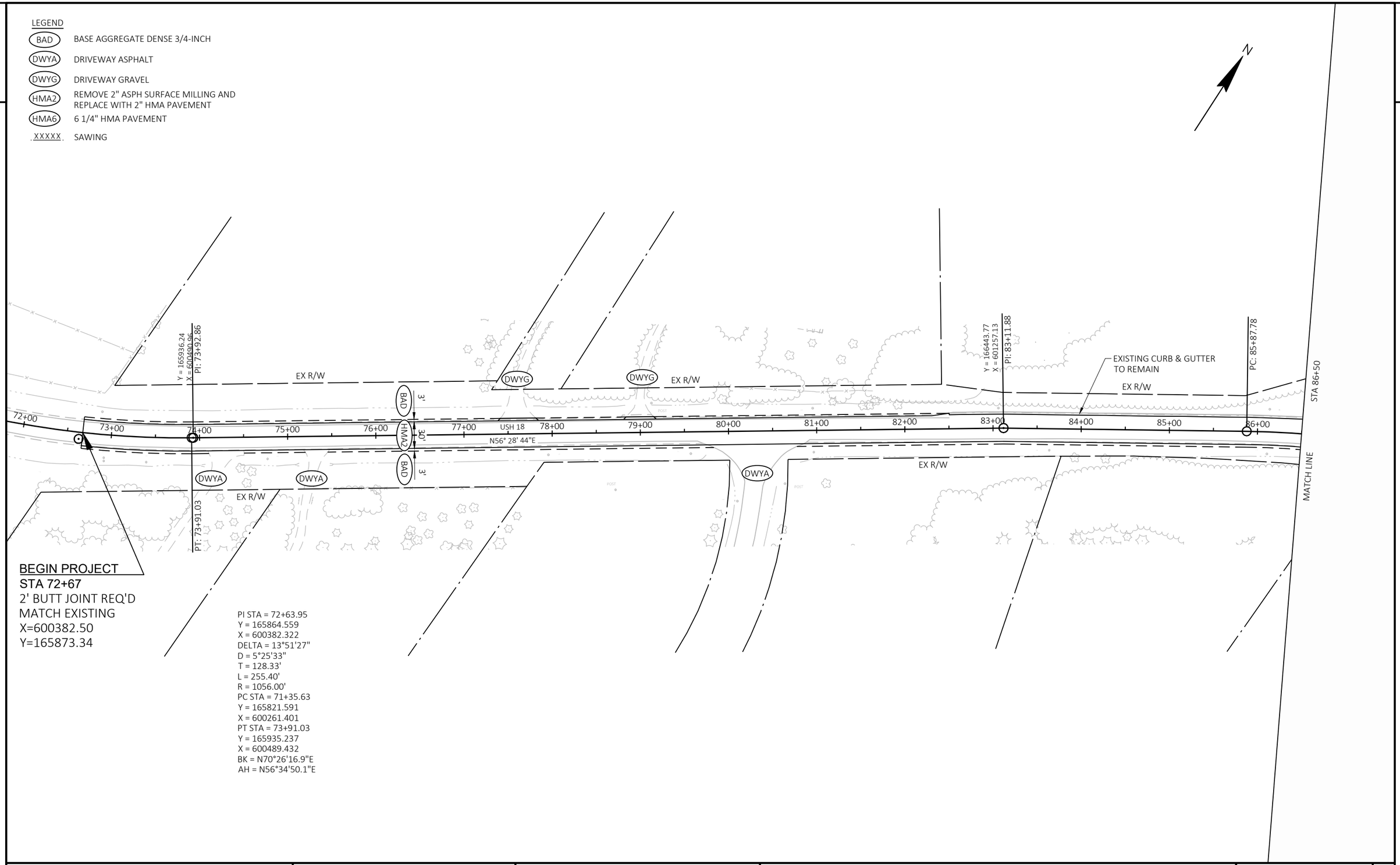
PI STA = 75+06.21
Y = 148452.620
X = 673730.810
DELTA = 42°19'24"
D = 2°56'12"
T = 755.28'
L = 1441.24'
R = 1951.09'
PC STA = 67+50.93
PT STA = 81+92.17

| STATION | DESCRIPTION | LEFT SHOULDER | LEFT LANE | RIGHT LANE | RIGHT SHOULDER |
|---|---|---|---|---|---|
| 77+29 | WEST MATCH POINT | -5.00% | -5.00% | 5.00% | 4.60% |
| 79+26 | WEST BRIDGE MATCH | -5.30% | -5.30% | 5.30% | 1.50% |
| 81+50 | END FULL SUPER | -5.30% | -5.30% | 5.30% | 1.50% |
| 82+29 | REVERSE CROWN | -2.00% | -2.00% | 2.00% | 1.50% |
| 82+77 | LEVEL CROWN | -2.00% | -2.00% | 0.00% | 0.00% |
| 82+80 | EAST MATCH POINT | -1.80% | -1.80% | -0.20% | -0.20% |

2

LEGEND

| | |
|---|---|
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| DWYA | DRIVEWAY ASPHALT |
| DWYG | DRIVEWAY GRAVEL |
| HMA2 | REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT |
| HMA6 | 6 1/4" HMA PAVEMENT |
| XXXXX | SAWING |




BEGIN PROJECT
STA 72+67
2' BUTT JOINT REQ'D
MATCH EXISTING
X=600382.50
Y=165873.34

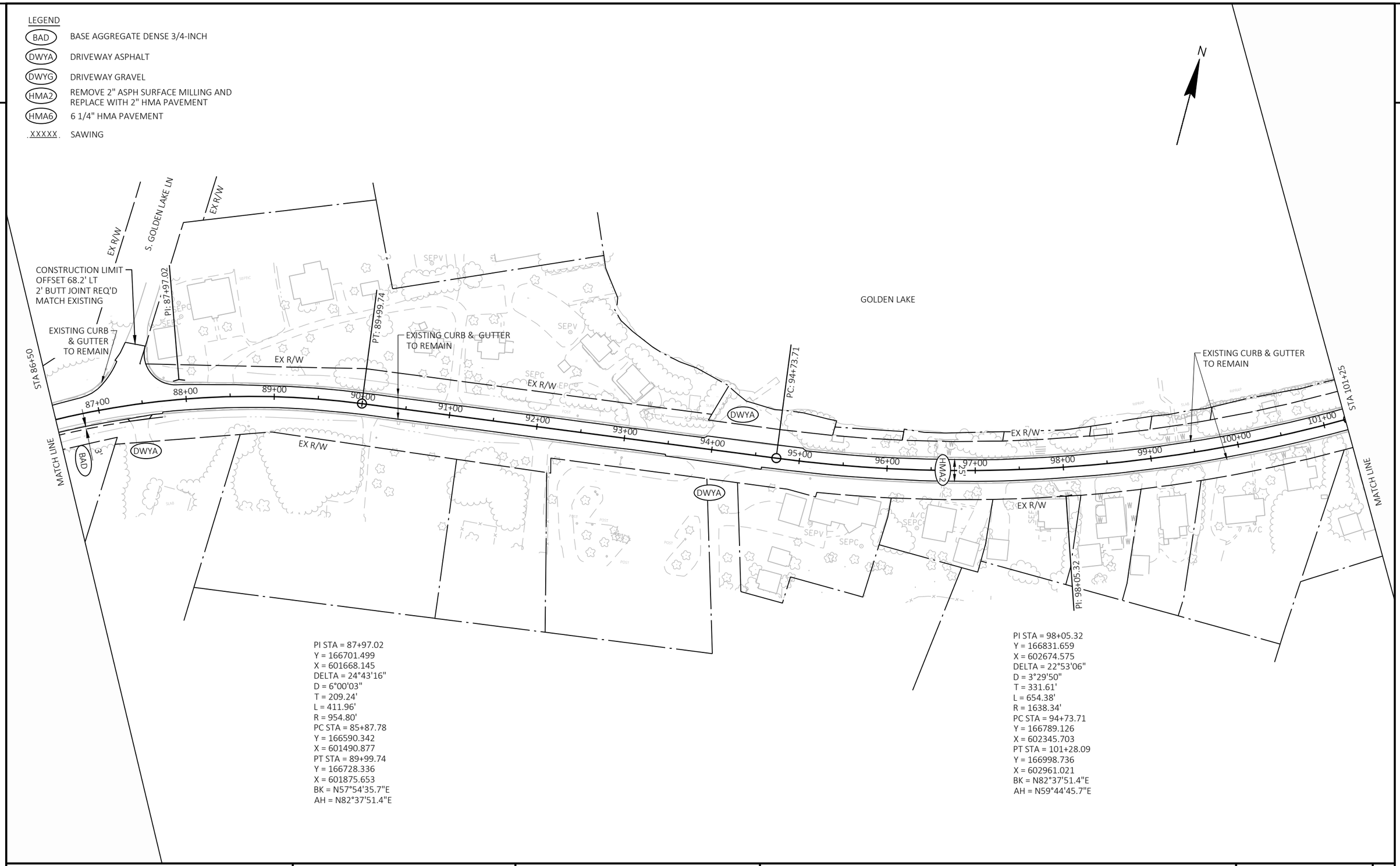
PI STA = 72+63.95
Y = 165864.559
X = 600382.322
DELTA = 13°51'27"
D = 5°25'33"
T = 128.33'
L = 255.40'
R = 1056.00'
PC STA = 71+35.63
Y = 165821.591
X = 600261.401
PT STA = 73+91.03
Y = 165935.237
X = 600489.432
BK = N70°26'16.9"E
AH = N56°34'50.1"E

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 22 | E |
|---|---|---|---|---|---|

2

LEGEND

| | |
|---|---|
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| DWYA | DRIVEWAY ASPHALT |
| DWYG | DRIVEWAY GRAVEL |
| HMA2 | REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT |
| HMA6 | 6 1/4" HMA PAVEMENT |
| XXXXX | SAWING |




PI STA = 87+97.02
Y = 166701.499
X = 601668.145
DELTA = 24°43'16"
D = 6°00'03"
T = 209.24'
L = 411.96'
R = 954.80'
PC STA = 85+87.78
Y = 166590.342
X = 601490.877
PT STA = 89+99.74
Y = 166728.336
X = 601875.653
BK = N57°54'35.7"E
AH = N82°37'51.4"E

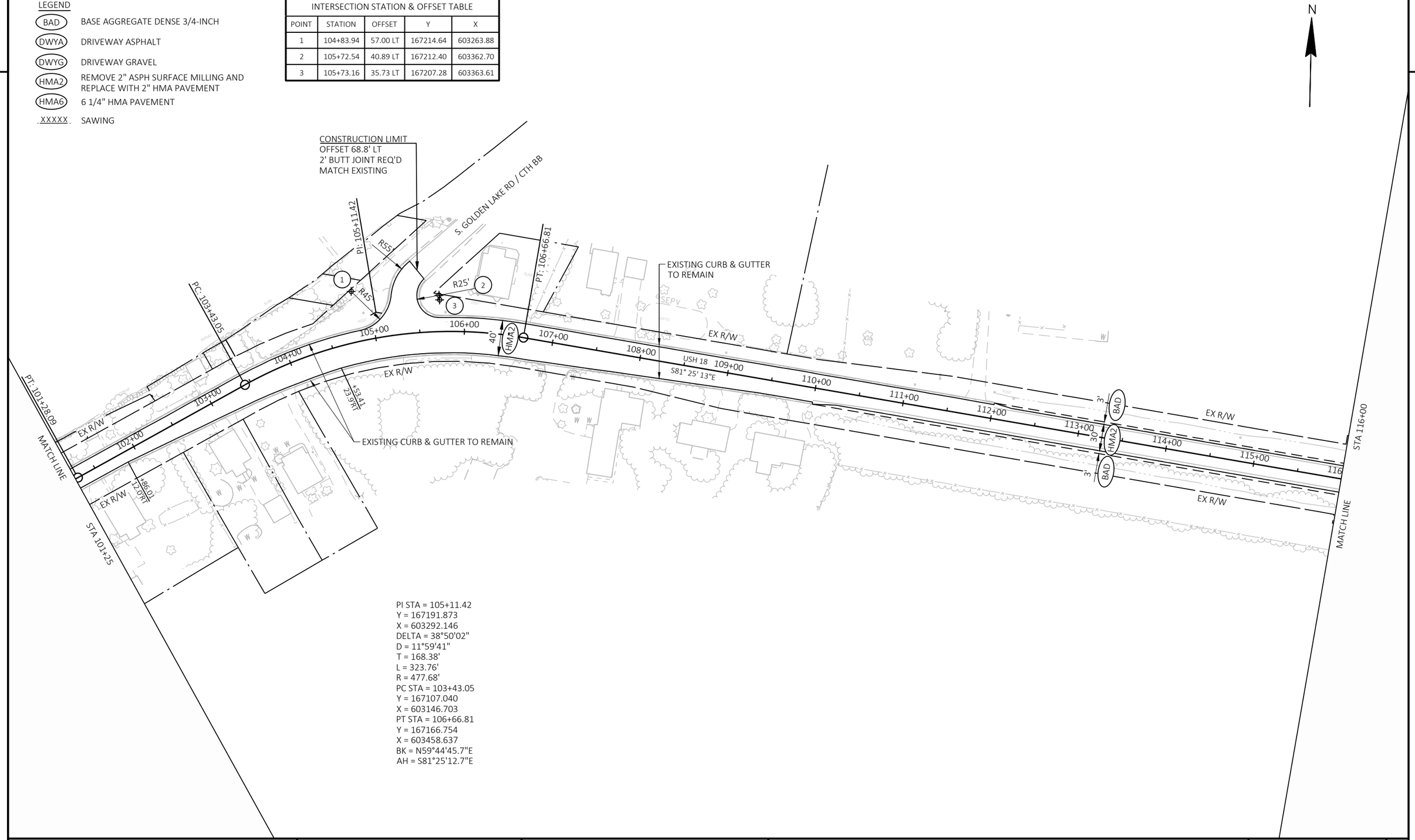
PI STA = 98+05.32
Y = 166831.659
X = 602674.575
DELTA = 22°53'06"
D = 3°29'50"
T = 331.61'
L = 654.38'
R = 1638.34'
PC STA = 94+73.71
Y = 166789.126
X = 602345.703
PT STA = 101+28.09
Y = 166998.736
X = 602961.021
BK = N82°37'51.4"E
AH = N59°44'45.7"E

| | | | | |
|---|---|---|---|---|
| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 23 E |

LEGEND

| | |
|---|---|
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| DWYA | DRIVEWAY ASPHALT |
| DWYG | DRIVEWAY GRAVEL |
| HMA2 | REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT |
| HMA6 | 6 1/4" HMA PAVEMENT |
| XXXXX | SAWING |

| INTERSECTION STATION & OFFSET TABLE | | | | |
|---|---|---|---|---|
| POINT | STATION | OFFSET | Y | X |
| 1 | 104+83.94 | 57.00 LT | 167214.64 | 603263.88 |
| 2 | 105+72.54 | 40.89 LT | 167212.40 | 603362.70 |
| 3 | 105+73.16 | 35.73 LT | 167207.28 | 603363.61 |




PI STA = 105+11.42
Y = 167191.873
X = 603292.146
DELTA = 38°50'02"
D = 11°59'41"
T = 168.38'
L = 323.76'
R = 477.68'
PC STA = 103+43.05
Y = 167107.040
X = 603146.703
PT STA = 106+66.81
Y = 167166.754
X = 603458.637
BK = N59°44'45.7"E
AH = S81°25'12.7"E

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 24 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\021202-PD-USH 18.DWG
LAYOUT NAME - 021203-pd
PLOT DATE : 3/20/2023 12:39 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

LEGEND

| | |
|---|---|
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| DWYA | DRIVEWAY ASPHALT |
| DWYG | DRIVEWAY GRAVEL |
| HMA2 | REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT |
| HMA6 | 6 1/4" HMA PAVEMENT |
| XXXXX | SAWING |

N

STA 116+00

EX R/W

EX R/W

EX R/W

DWYG

3'

BAD

30'

HMA2

116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00

STA 130+75

MATCH LINE

EX R/W

DWYG

EX R/W

DWYG

3'

BAD

DWYG

EX R/W

DWYG

SECTION CORNER MONUMENT

MATCH LINE

2

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 25 | E |
|---|---|---|---|---|---|

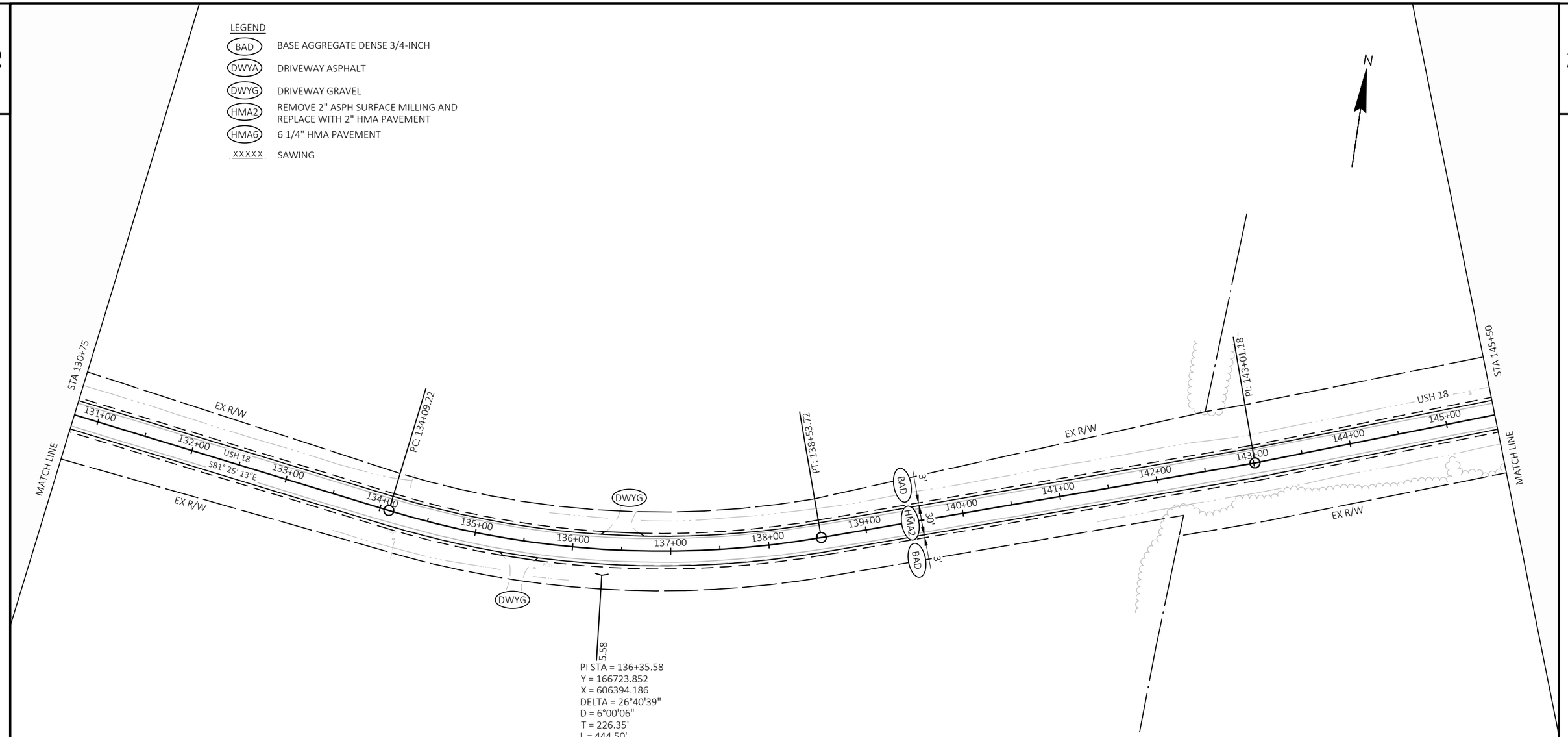
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LAYOUT NAME - 021204-pd

PLOT DATE : 3/20/2023 12:40 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

LEGEND

| | |
|---|---|
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| DWYA | DRIVEWAY ASPHALT |
| DWYG | DRIVEWAY GRAVEL |
| HMA2 | REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT |
| HMA6 | 6 1/4" HMA PAVEMENT |
| XXXXX | SAWING |




PI STA = 136+35.58
Y = 166723.852
X = 606394.186
DELTA = 26°40'39"
D = 6°00'06"
T = 226.35'
L = 444.50'
R = 954.66'
PC STA = 134+09.22
Y = 166757.621
X = 606170.365
PT STA = 138+53.72
Y = 166794.166
X = 606609.342
BK = S81°25'12.7"E
AH = N71°54'08.4"E

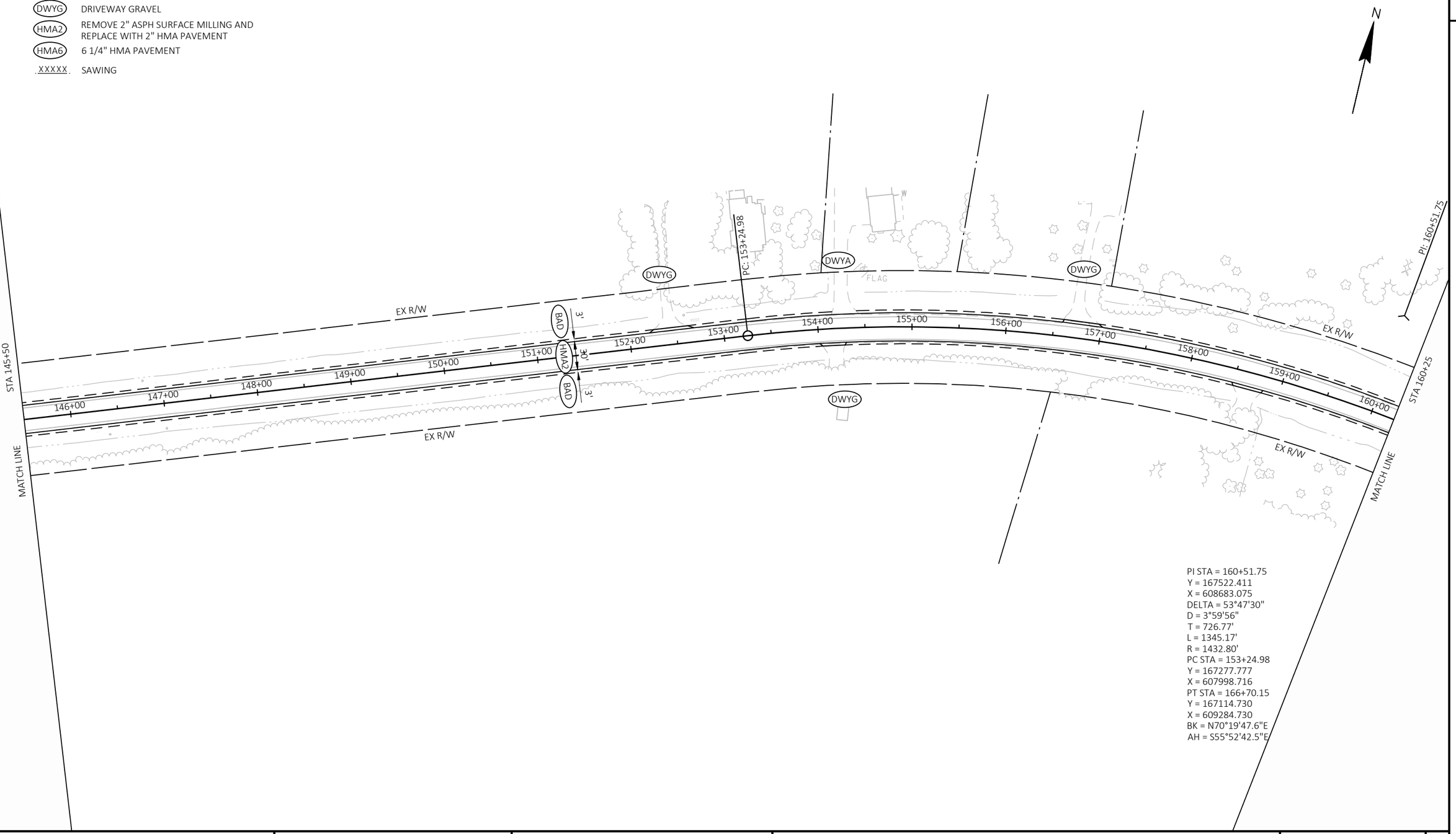
| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 26 | E |
|---|---|---|---|---|---|

2

2

LEGEND

| | |
|---|---|
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| DWYA | DRIVEWAY ASPHALT |
| DWYG | DRIVEWAY GRAVEL |
| HMA2 | REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT |
| HMA6 | 6 1/4" HMA PAVEMENT |
| XXXXX | SAWING |



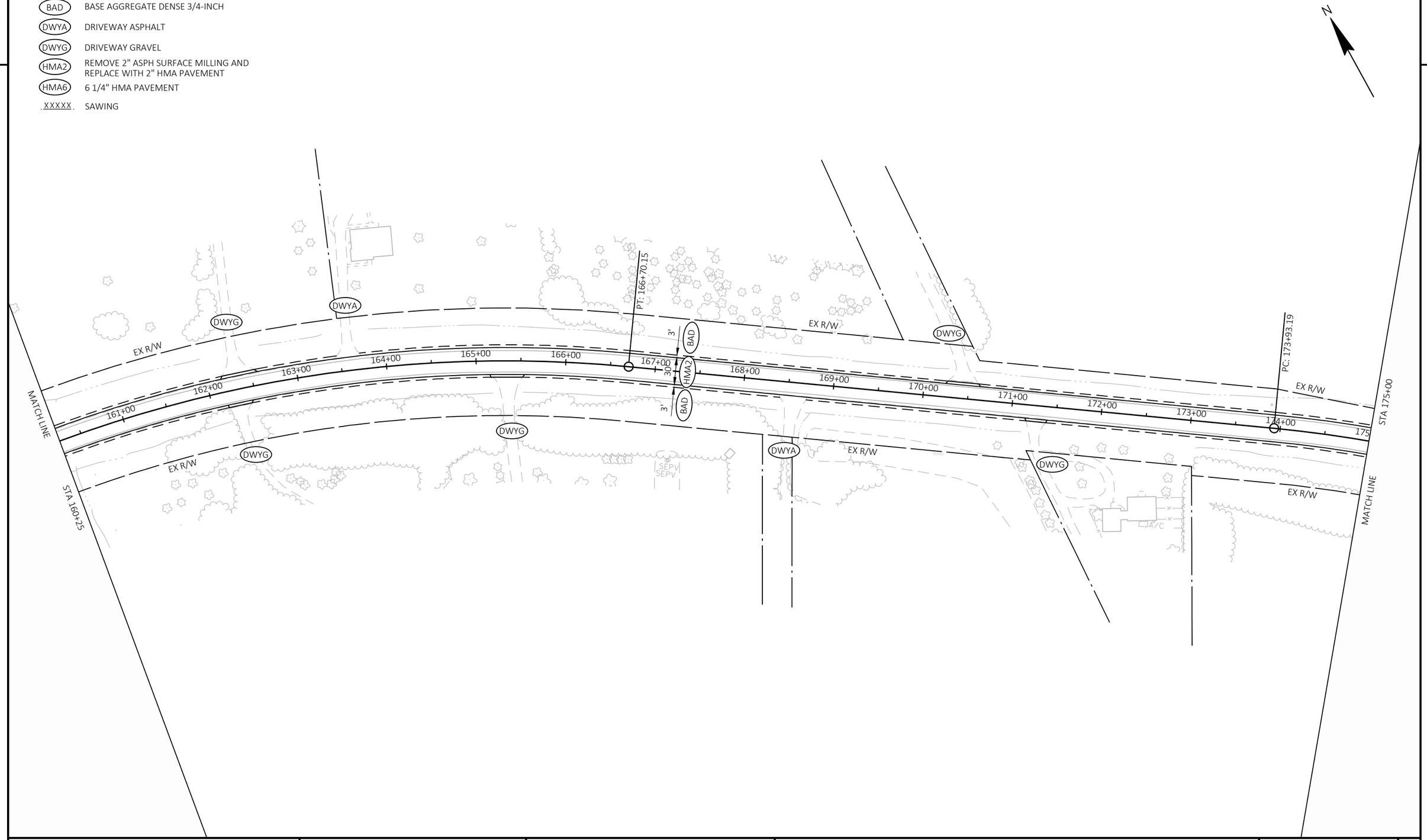

PI STA = 160+51.75
Y = 167522.411
X = 608683.075
DELTA = 53°47'30"
D = 3°59'56"
T = 726.77'
L = 1345.17'
R = 1432.80'
PC STA = 153+24.98
Y = 167277.777
X = 607998.716
PT STA = 166+70.15
Y = 167114.730
X = 609284.730
BK = N70°19'47.6"E
AH = S55°52'42.5"E

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 27 | E |
|---|---|---|---|---|---|


FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\021202-PD-USH 18.DWG
LAYOUT NAME - 021206-pd
PLOT DATE : 3/20/2023 12:40 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

LEGEND

- (BAD) BASE AGGREGATE DENSE 3/4-INCH
- (DWYA) DRIVEWAY ASPHALT
- (DWYG) DRIVEWAY GRAVEL
- (HMA2) REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT
- (HMA6) 6 1/4" HMA PAVEMENT
- XXXXX SAWING




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 28 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\021202-PD-USH 18.DWG
LAYOUT NAME - 021207-pd
PLOT DATE : 3/20/2023 12:41 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

LEGEND

BAD BASE AGGREGATE DENSE 3/4-INCH

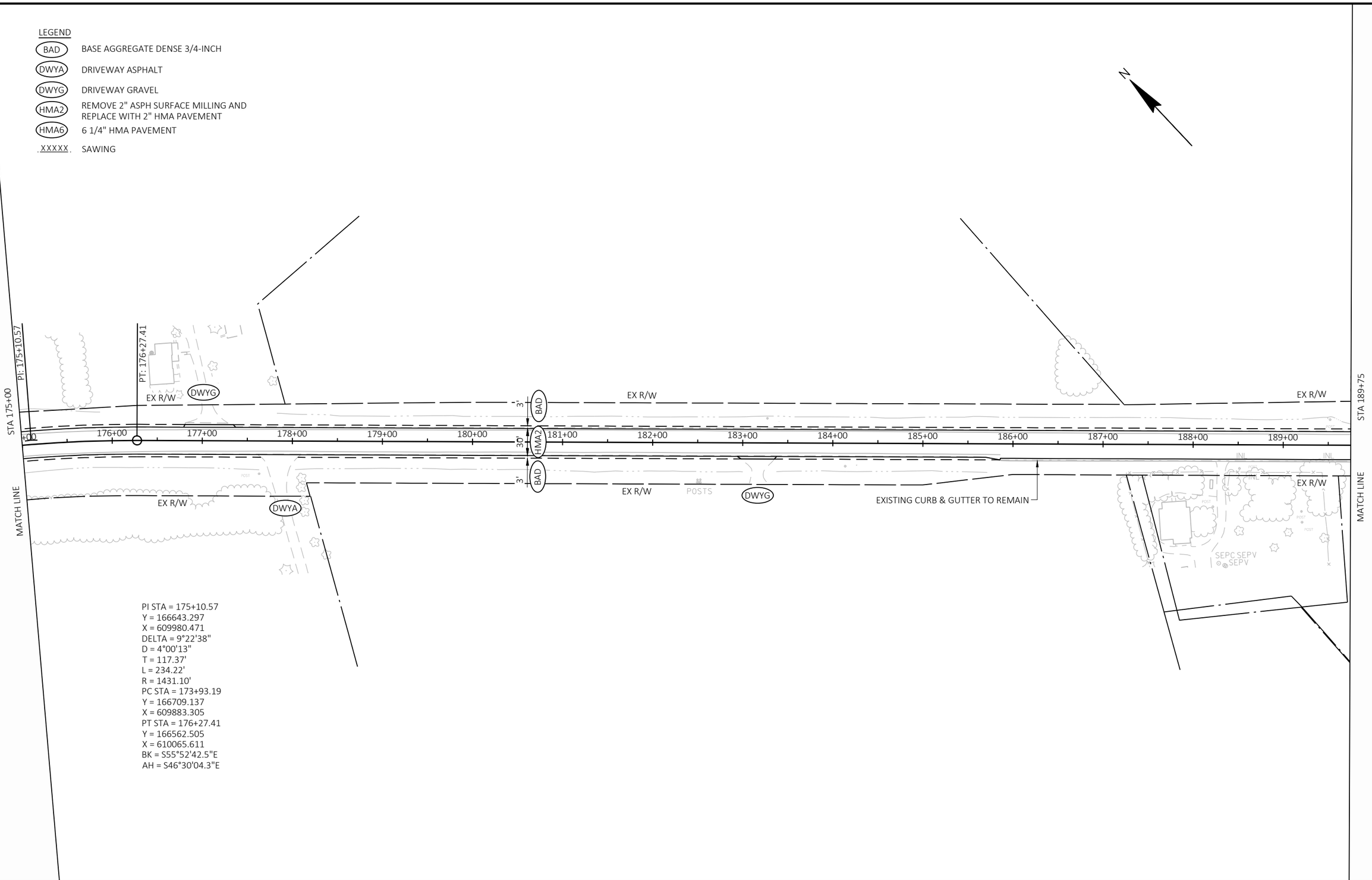
DWYA DRIVEWAY ASPHALT

DWYG DRIVEWAY GRAVEL

HMA2 REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT

HMA6 6 1/4" HMA PAVEMENT

XXXXX SAWING




PI STA = 175+10.57
Y = 166643.297
X = 609980.471
DELTA = 9°22'38"
D = 4°00'13"
T = 117.37'
L = 234.22'
R = 1431.10'
PC STA = 173+93.19
Y = 166709.137
X = 609883.305
PT STA = 176+27.41
Y = 166562.505
X = 610065.611
BK = S55°52'42.5"E
AH = S46°30'04.3"E

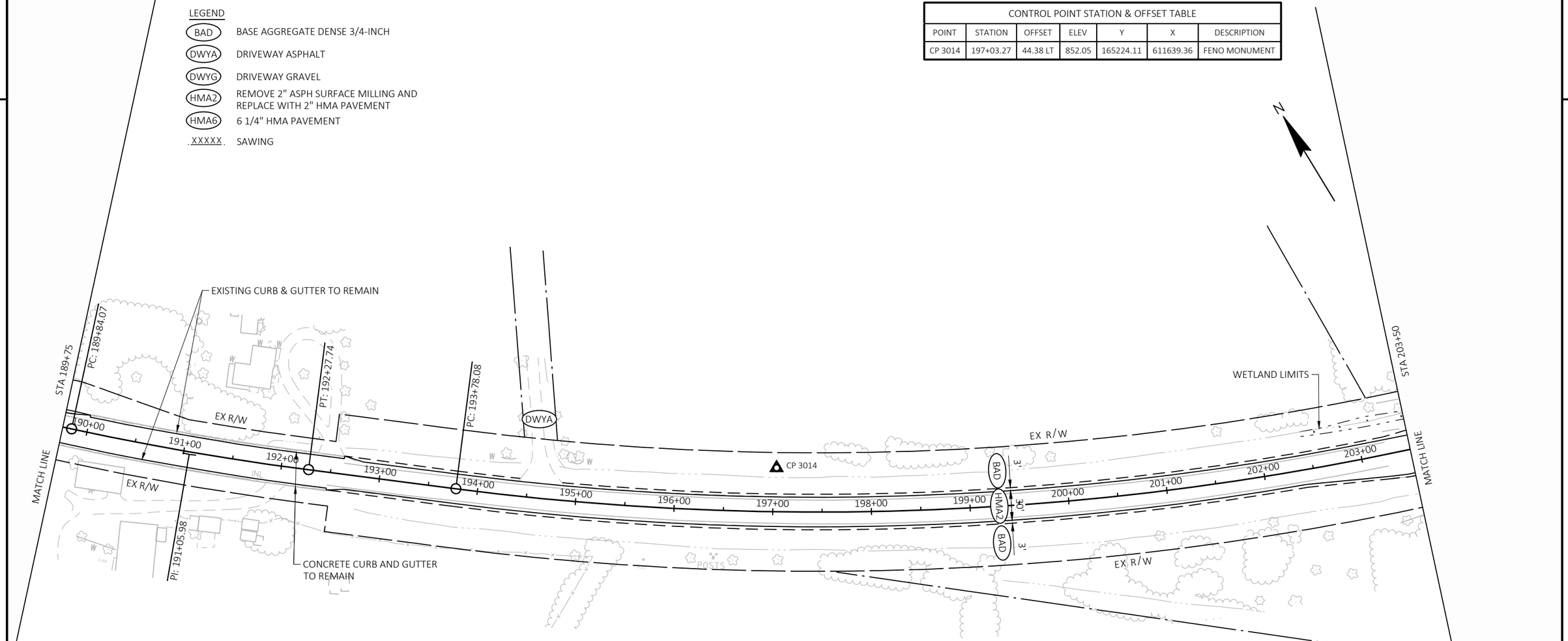
| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 29 | E |
|---|---|---|---|---|---|

LEGEND

| | |
|---|---|
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| DWYA | DRIVEWAY ASPHALT |
| DWYG | DRIVEWAY GRAVEL |
| HMA2 | REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT |
| HMA6 | 6 1/4" HMA PAVEMENT |
| XXXXX | SAWING |

CONTROL POINT STATION & OFFSET TABLE

| POINT | STATION | OFFSET | ELEV | Y | X | DESCRIPTION |
|---|---|---|---|---|---|---|
| CP 3014 | 197+03.27 | 44.38 LT | 852.05 | 165224.11 | 611639.36 | FENO MONUMENT |




PI STA = 191+05.98
Y = 165544.748
X = 611138.148
DELTA = 4°51'28"
D = 1°59'37"
T = 121.91'
L = 243.67'
R = 2874.04'
PC STA = 189+84.07
Y = 165628.662
X = 611049.717
PT STA = 192+27.74
Y = 165468.624
X = 611233.367
BK = S46°30'04.3"E
AH = S51°21'32.0"E

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 30 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\021202-PD-USH 18.DWG
LAYOUT NAME - 021209-pd
PLOT DATE : 3/20/2023 12:42 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

| PAVEMENT ELEVATION TABLE | | | | | |
|---|---|---|---|---|---|
| STA | EPS LT | ETW LT | C/L | ETW RT | EPS RT |
| 204+00 | 853.87' | 854.01' | 854.41' | 854.82' | 855.22' |
| 205+00 | 854.10' | 854.45' | 854.86' | 855.27' | 855.63 |
| 206+00 | 853.96' | 854.90' | 855.30' | 855.71' | 856.07' |
| 208+00 | 854.73' | 855.09' | 855.49' | 855.90' | 856.27' |
| 209+00 | 854.21' | 854.59' | 854.99' | 855.40' | 855.62' |
| 210+00 | 853.70' | 854.11' | 854.52' | 854.93' | 855.16' |

| INTERSECTION STATION & OFFSET TABLE | | | | |
|---|---|---|---|---|
| POINT | STATION | OFFSET | Y | X |
| 12 | 203+90.44 | 39.06 RT | 164856.95 | 612223.42 |
| 11 | 204+41.24 | 38.06 RT | 164842.11 | 612272.73 |

LEGEND

- BAD — BASE AGGREGATE DENSE 3/4-INCH
- CG01 — CURB & GUTTER 6-INCH SLOPED 30-INCH, TYPE J
- CG03 — CURB & GUTTER 4-INCH SLOPED 36-INCH, TYPE TBT
- CPAS — CONCRETE PAVEMENT APPROACH SLAB
- CSD — CONCRETE SURFACE DRAIN
- DWYA — DRIVEWAY ASPHALT
- DWYG — DRIVEWAY GRAVEL
- FLUM — ASPHALTIC FLUME
- HMA2 — REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT
- HMA6 — 6 1/4" HMA PAVEMENT
- XXXXX — SAWING ASPHALT
- ΔΔΔΔΔ — SAWING CONCRETE
- SLOPE INTERCEPT

N

STA 203+50

STA 203+86
END RESURFACE
BEGIN RECONSTRUCT
SAWING CONCRETE

SEE STRUCTURE B-67-0377 PLANS

MATCH LINE

CSD
CG03
BAD
+64.31 22.3'LT
+88.83 14.8'LT
+14.22 20.0'LT
+20.60 22.3'LT
WETLAND LIMITS
WETLAND LIMITS
CG03
+86.16 22.3'LT
STA 210+17
END RECONSTRUCT
BEGIN RESURFACE
SAWING CONCRETE
WETLAND LIMITS
EX R/W
+45.57 21.2'LT
+37.60 15.0'LT
BAD 9"
HMA2 3"
BAD 5"
PT: 218+00.98
STA 218+50
MATCH LINE
CP 3011

ASPH
204+00
205+00
206+00
207+00
208+00
209+00
210+00
211+00
212+00
213+00
214+00
215+00
216+00
217+00
218+00

43'
45'
40'
HMA6
INL
R15'
R15'
12
11
CP 3013
BAD
DWYA
EX R/W
WETLAND LIMITS
+02.15 12.0'RT
CPAS
CPAS
+23.34 12.0'RT
BARK RIVER
WETLAND LIMITS
+60.48 23.0'RT
+29.33 15.6'RT
BAD
CP 3012
USH 18
+93.51 15.0'RT
POST
EX R/W
U/C
EXISTING CURB & GUTTER TO REMAIN
EX R/W
GRAMLING LN
EXISTING CURB & GUTTER TO REMAIN
CONSTRUCTION LIMIT
STA 210+88.6, 74.1' RT
2' BUTT JOINT REQ'D
MATCH EXISTING

PI STA = 206+67.40
Y = 164569.644
X = 612357.843
DELTA = 48°29'03"
D = 2°00'04"
T = 1289.32'
L = 2422.90'
R = 2863.25'
PC STA = 193+78.08
Y = 165374.748
X = 611350.790
PT STA = 218+00.98
Y = 164790.053
X = 613628.185
BK = S51°21'32.0"E
AH = N80°09'25.1"E

PI: 206+67.40

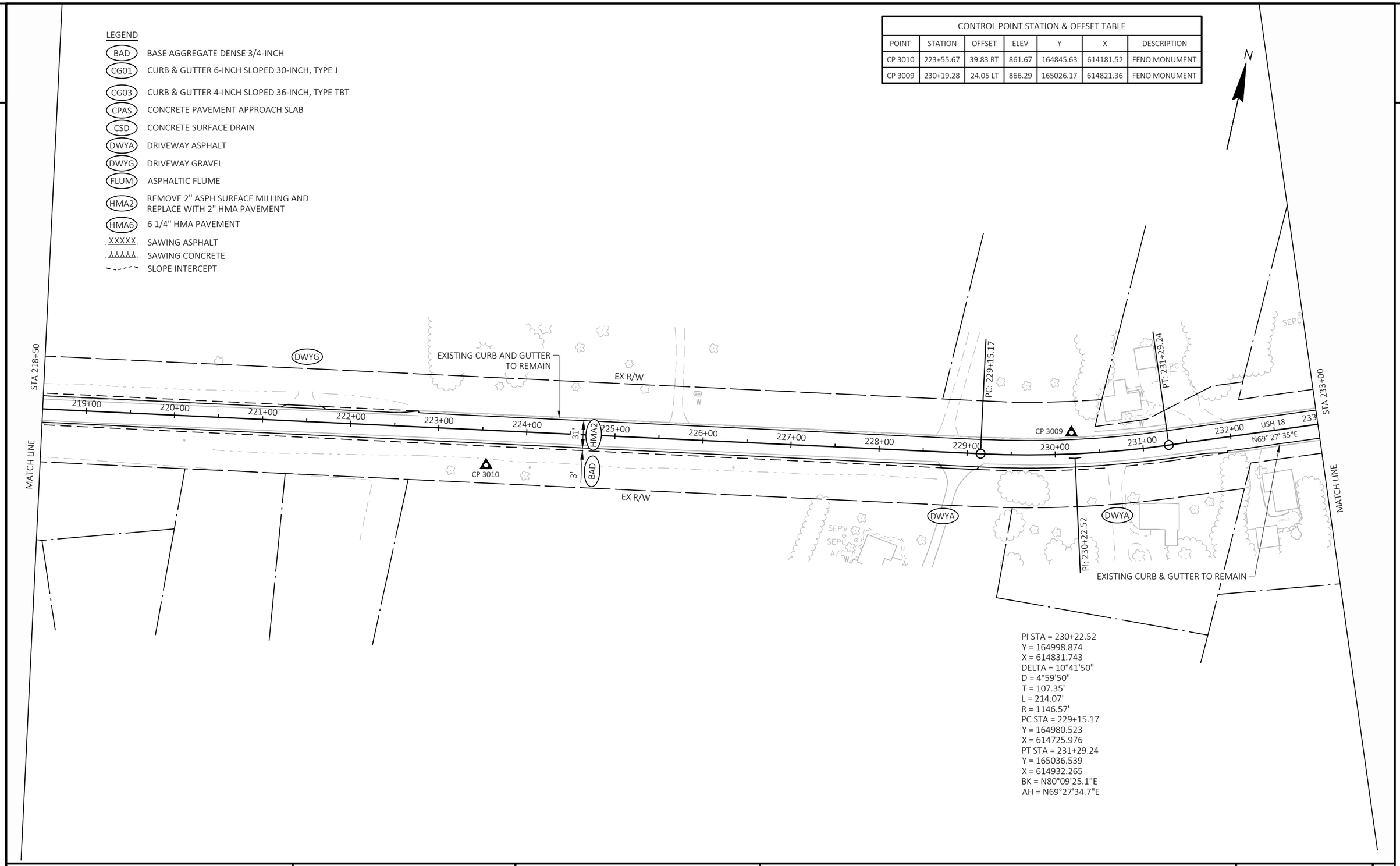
| CONTROL POINT STATION & OFFSET TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | ELEV | Y | X | DESCRIPTION |
| CP 3013 | 203+97.00 | 41.42 RT | 853.04 | 164852.62 | 612229.00 | FENO MONUMENT |
| CP 3012 | 210+41.62 | 29.32 RT | 855.28 | 164731.20 | 612868.89 | FENO MONUMENT |
| CP 3011 | 217+52.85 | 47.16 LT | 857.02 | 164828.82 | 613573.41 | FENO MONUMENT |

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 31 | E |
|---|---|---|---|---|---|

LEGEND

- BAD — BASE AGGREGATE DENSE 3/4-INCH
- CG01 — CURB & GUTTER 6-INCH SLOPED 30-INCH, TYPE J
- CG03 — CURB & GUTTER 4-INCH SLOPED 36-INCH, TYPE TBT
- CPAS — CONCRETE PAVEMENT APPROACH SLAB
- CSD — CONCRETE SURFACE DRAIN
- DWYA — DRIVEWAY ASPHALT
- DWYG — DRIVEWAY GRAVEL
- FLUM — ASPHALTIC FLUME
- HMA2 — REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT
- HMA6 — 6 1/4" HMA PAVEMENT
- XXXXX — SAWING ASPHALT
- ΔΔΔΔΔ — SAWING CONCRETE
- ~~~~~ — SLOPE INTERCEPT

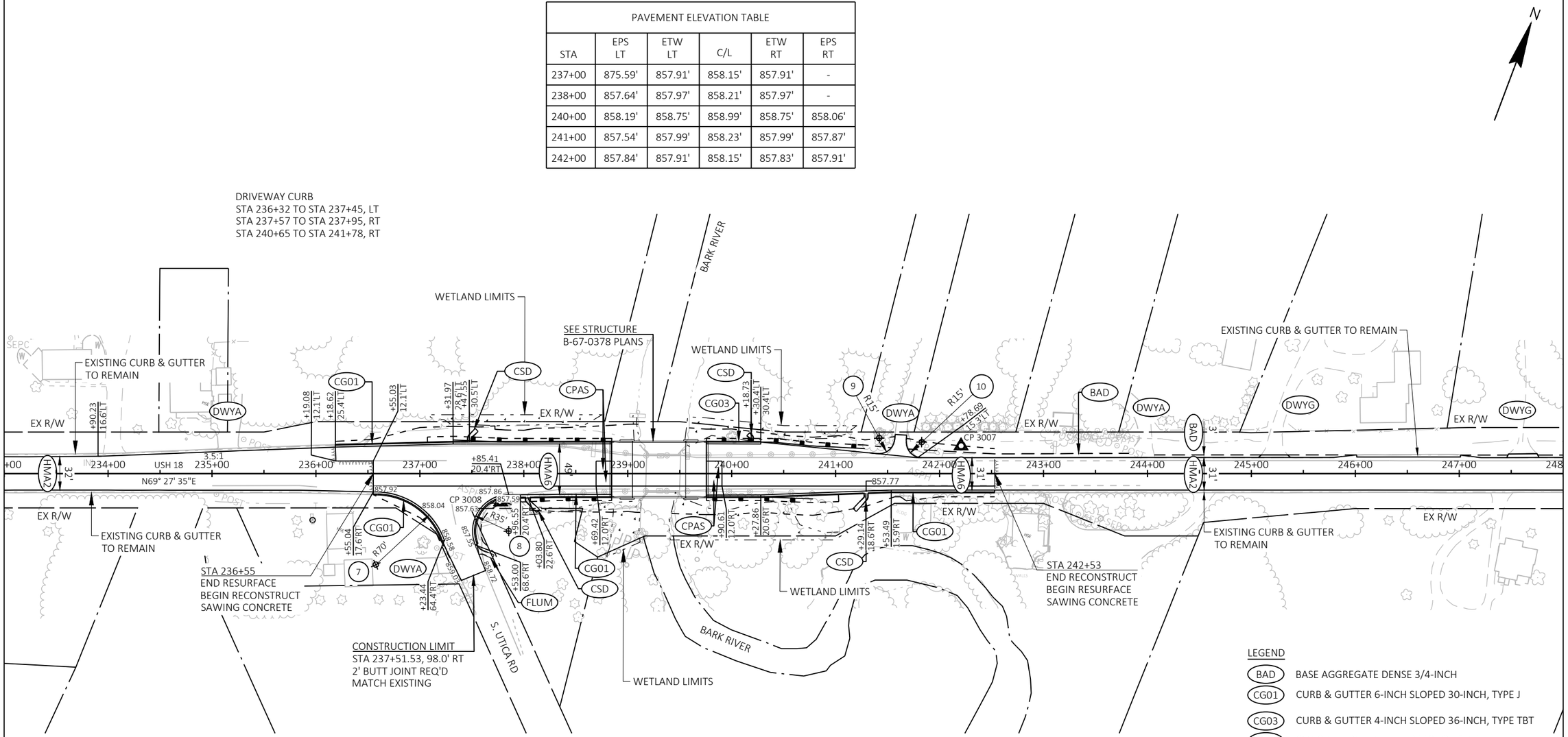
| CONTROL POINT STATION & OFFSET TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | ELEV | Y | X | DESCRIPTION |
| CP 3010 | 223+55.67 | 39.83 RT | 861.67 | 164845.63 | 614181.52 | FENO MONUMENT |
| CP 3009 | 230+19.28 | 24.05 LT | 866.29 | 165026.17 | 614821.36 | FENO MONUMENT |




PI STA = 230+22.52
Y = 164998.874
X = 614831.743
DELTA = 10°41'50"
D = 4°59'50"
T = 107.35'
L = 214.07'
R = 1146.57'
PC STA = 229+15.17
Y = 164980.523
X = 614725.976
PT STA = 231+29.24
Y = 165036.539
X = 614932.265
BK = N80°09'25.1"E
AH = N69°27'34.7"E

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 32 | E |
|---|---|---|---|---|---|

| PAVEMENT ELEVATION TABLE | | | | | |
|---|---|---|---|---|---|
| STA | EPS LT | ETW LT | C/L | ETW RT | EPS RT |
| 237+00 | 875.59' | 857.91' | 858.15' | 857.91' | - |
| 238+00 | 857.64' | 857.97' | 858.21' | 857.97' | - |
| 240+00 | 858.19' | 858.75' | 858.99' | 858.75' | 858.06' |
| 241+00 | 857.54' | 857.99' | 858.23' | 857.99' | 857.87' |
| 242+00 | 857.84' | 857.91' | 858.15' | 857.83' | 857.91' |




| INTERSECTION STATION & OFFSET TABLE | | | | |
|---|---|---|---|---|
| POINT | STATION | OFFSET | Y | X |
| 7 | 236+57.44 | 87.69 RT | 165139.75 | 615457.65 |
| 8 | 237+85.41 | 55.40 RT | 165214.89 | 615566.15 |
| 9 | 241+41.82 | 34.08 LT | 165423.73 | 615868.51 |
| 10 | 241+82.76 | 30.31 LT | 165434.57 | 615908.17 |

| CONTROL POINT STATION & OFFSET TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | ELEV | Y | X | DESCRIPTION |
| CP 3008 | 237+77.62 | 27.18 RT | 857.68 | 165238.58 | 615548.96 | FENO MONUMENT |
| CP 10 | 241+82.76 | 30.31 LT | 0.00 | 165434.57 | 615908.17 | |
| CP 3007 | 242+20.60 | 26.69 LT | 856.27 | 165444.45 | 615944.88 | FENO MONUMENT |

LEGEND

| | |
|---|---|
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| CG01 | CURB & GUTTER 6-INCH SLOPED 30-INCH, TYPE J |
| CG03 | CURB & GUTTER 4-INCH SLOPED 36-INCH, TYPE TBT |
| CPAS | CONCRETE PAVEMENT APPROACH SLAB |
| CSD | CONCRETE SURFACE DRAIN |
| DWYA | DRIVEWAY ASPHALT |
| DWYG | DRIVEWAY GRAVEL |
| FLUM | ASPHALTIC FLUME |
| HMA2 | REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT |
| HMA6 | 6 1/4" HMA PAVEMENT |
| XXXXX | SAWING ASPHALT |
| XXXXX | SAWING CONCRETE |
| | SLOPE INTERCEPT |

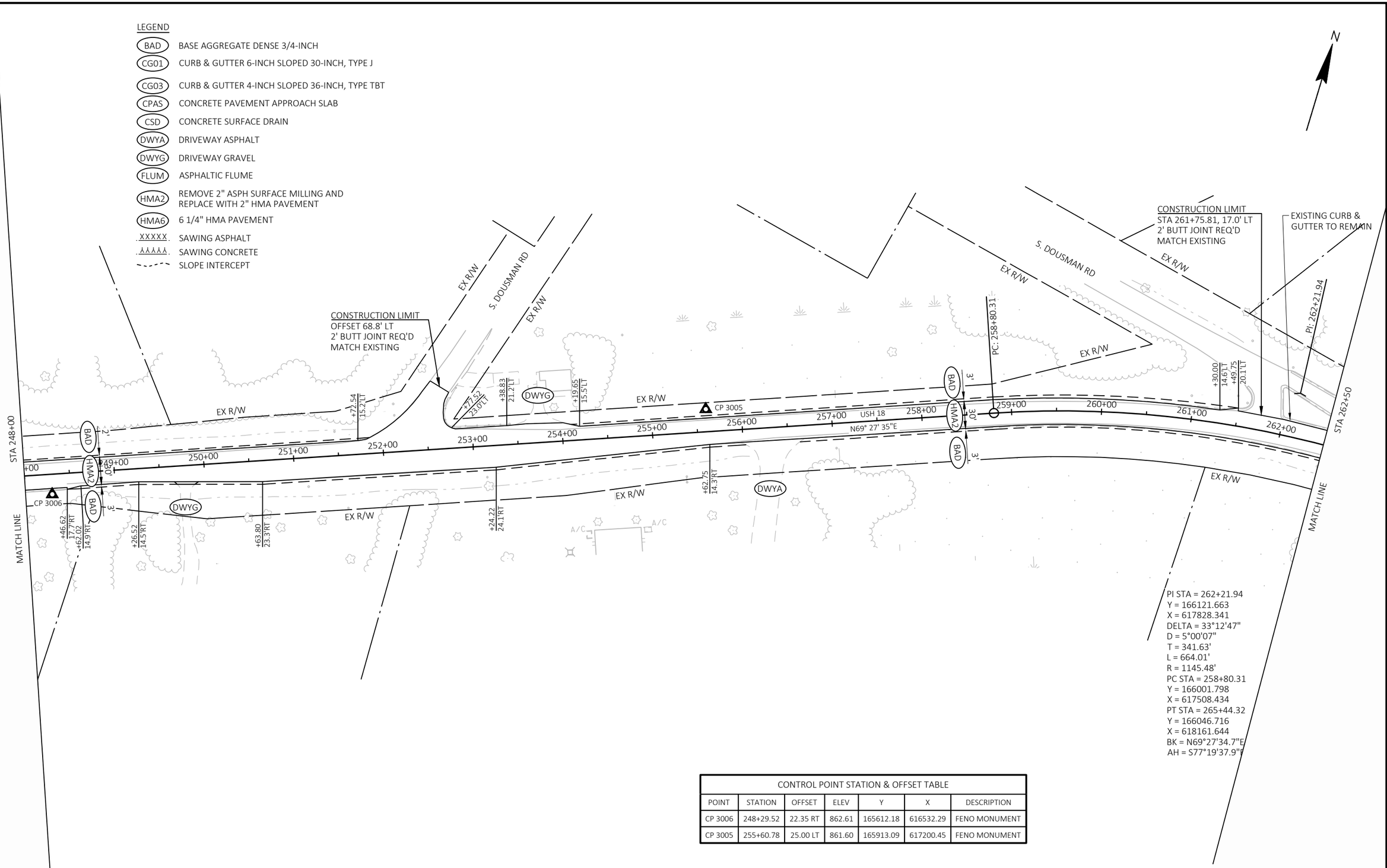
| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 33 | E |
|---|---|---|---|---|---|


FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\021202-PD-USH 18.DWG
LAYOUT NAME - 021212-pd
PLOT DATE : 3/20/2023 12:44 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- BAD — BASE AGGREGATE DENSE 3/4-INCH
- CG01 — CURB & GUTTER 6-INCH SLOPED 30-INCH, TYPE J
- CG03 — CURB & GUTTER 4-INCH SLOPED 36-INCH, TYPE TBT
- CPAS — CONCRETE PAVEMENT APPROACH SLAB
- CSD — CONCRETE SURFACE DRAIN
- DWYA — DRIVEWAY ASPHALT
- DWYG — DRIVEWAY GRAVEL
- FLUM — ASPHALTIC FLUME
- HMA2 — REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT
- HMA6 — 6 1/4" HMA PAVEMENT
- XXXXX — SAWING ASPHALT
- ΔΔΔΔΔ — SAWING CONCRETE
- SLOPE INTERCEPT




PI STA = 262+21.94
Y = 166121.663
X = 617828.341
DELTA = 33°12'47"
D = 5°00'07"
T = 341.63'
L = 664.01'
R = 1145.48'
PC STA = 258+80.31
Y = 166001.798
X = 617508.434
PT STA = 265+44.32
Y = 166046.716
X = 618161.644
BK = N69°27'34.7"E
AH = S77°19'37.9"E

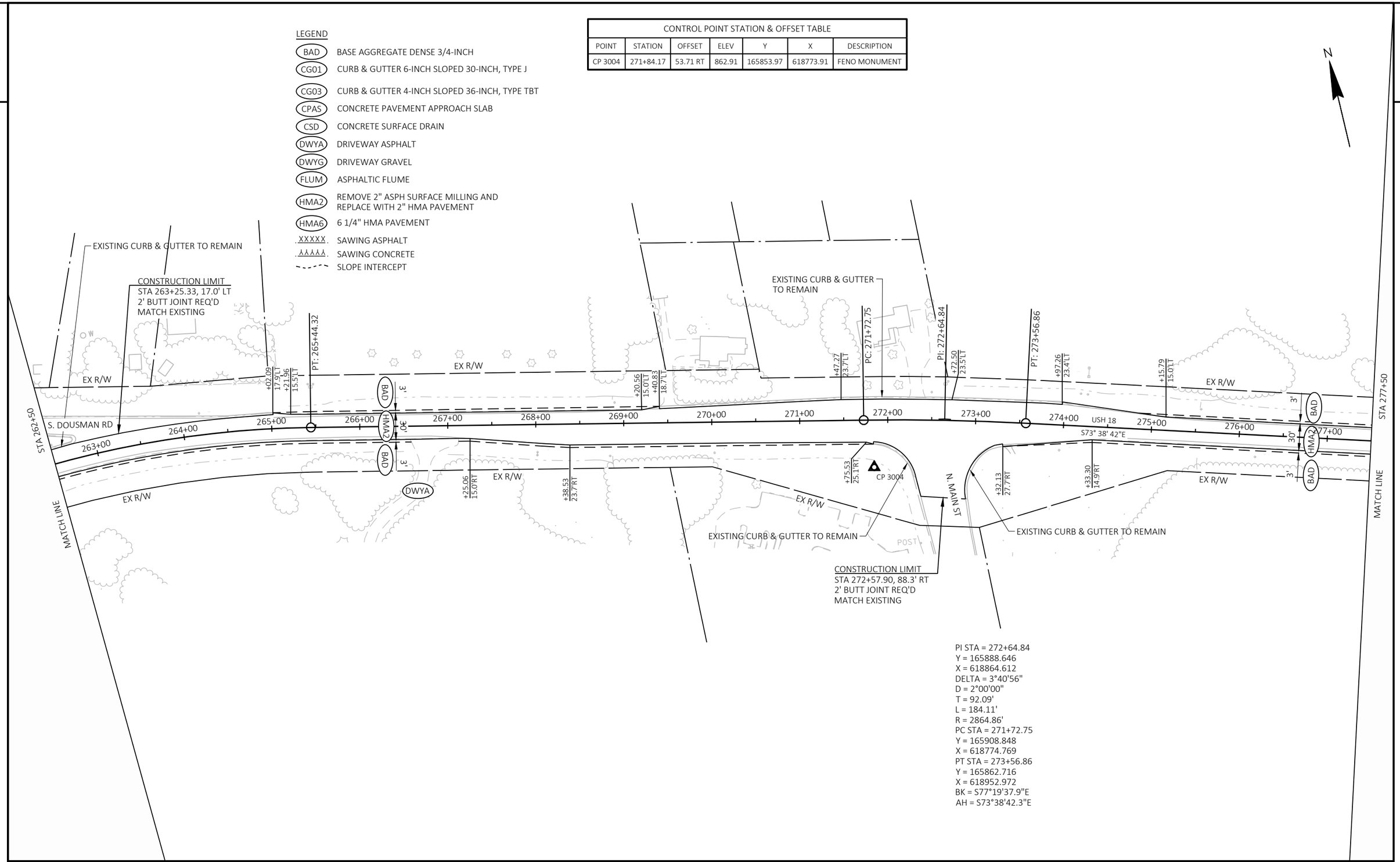
CONTROL POINT STATION & OFFSET TABLE

| POINT | STATION | OFFSET | ELEV | Y | X | DESCRIPTION |
|---|---|---|---|---|---|---|
| CP 3006 | 248+29.52 | 22.35 RT | 862.61 | 165612.18 | 616532.29 | FENO MONUMENT |
| CP 3005 | 255+60.78 | 25.00 LT | 861.60 | 165913.09 | 617200.45 | FENO MONUMENT |

LEGEND

- BAD — BASE AGGREGATE DENSE 3/4-INCH
- CG01 — CURB & GUTTER 6-INCH SLOPED 30-INCH, TYPE J
- CG03 — CURB & GUTTER 4-INCH SLOPED 36-INCH, TYPE TBT
- CPAS — CONCRETE PAVEMENT APPROACH SLAB
- CSD — CONCRETE SURFACE DRAIN
- DWYA — DRIVEWAY ASPHALT
- DWYG — DRIVEWAY GRAVEL
- FLUM — ASPHALTIC FLUME
- HMA2 — REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT
- HMA6 — 6 1/4" HMA PAVEMENT
- XXXXX — SAWING ASPHALT
- ΔΔΔΔΔ — SAWING CONCRETE
- SLOPE INTERCEPT

| CONTROL POINT STATION & OFFSET TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | ELEV | Y | X | DESCRIPTION |
| CP 3004 | 271+84.17 | 53.71 RT | 862.91 | 165853.97 | 618773.91 | FENO MONUMENT |




PI STA = 272+64.84
Y = 165888.646
X = 618864.612
DELTA = 3°40'56"
D = 2°00'00"
T = 92.09'
L = 184.11'
R = 2864.86'
PC STA = 271+72.75
Y = 165908.848
X = 618774.769
PT STA = 273+56.86
Y = 165862.716
X = 618952.972
BK = S77°19'37.9"E
AH = S73°38'42.3"E

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 35 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\021202-PD-USH 18.DWG
LAYOUT NAME - 021214-pd
PLOT DATE : 3/20/2023 12:45 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

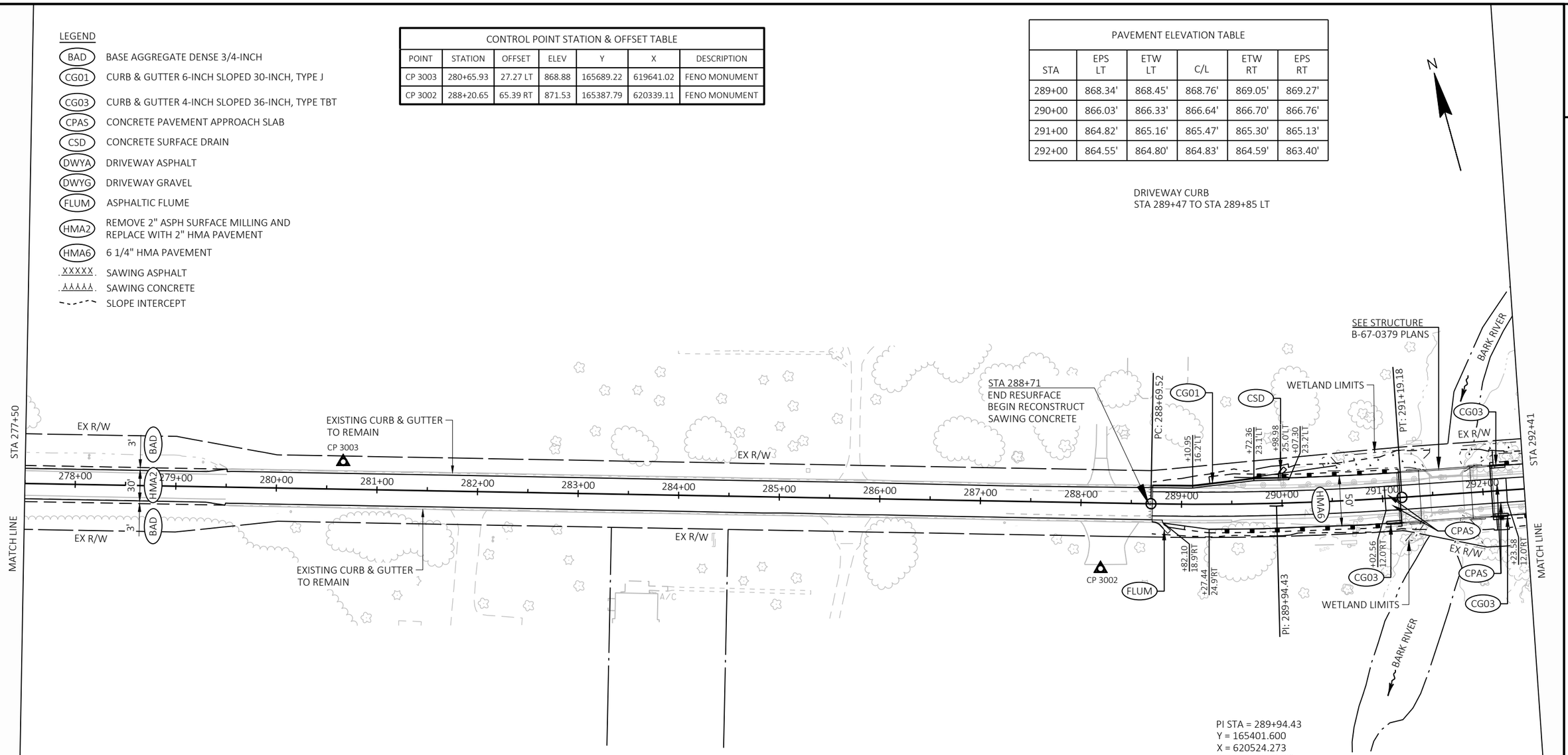
LEGEND

- BAD — BASE AGGREGATE DENSE 3/4-INCH
- CG01 — CURB & GUTTER 6-INCH SLOPED 30-INCH, TYPE J
- CG03 — CURB & GUTTER 4-INCH SLOPED 36-INCH, TYPE TBT
- CPAS — CONCRETE PAVEMENT APPROACH SLAB
- CSD — CONCRETE SURFACE DRAIN
- DWYA — DRIVEWAY ASPHALT
- DWYG — DRIVEWAY GRAVEL
- FLUM — ASPHALTIC FLUME
- HMA2 — REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT
- HMA6 — 6 1/4" HMA PAVEMENT
- XXXXX — SAWING ASPHALT
- ΔΔΔΔΔ — SAWING CONCRETE
- SLOPE INTERCEPT

| CONTROL POINT STATION & OFFSET TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | ELEV | Y | X | DESCRIPTION |
| CP 3003 | 280+65.93 | 27.27 LT | 868.88 | 165689.22 | 619641.02 | FENO MONUMENT |
| CP 3002 | 288+20.65 | 65.39 RT | 871.53 | 165387.79 | 620339.11 | FENO MONUMENT |

| PAVEMENT ELEVATION TABLE | | | | | |
|---|---|---|---|---|---|
| STA | EPS LT | ETW LT | C/L | ETW RT | EPS RT |
| 289+00 | 868.34' | 868.45' | 868.76' | 869.05' | 869.27' |
| 290+00 | 866.03' | 866.33' | 866.64' | 866.70' | 866.76' |
| 291+00 | 864.82' | 865.16' | 865.47' | 865.30' | 865.13' |
| 292+00 | 864.55' | 864.80' | 864.83' | 864.59' | 863.40' |

DRIVEWAY CURB
STA 289+47 TO STA 289+85 LT




| STATION | DESCRIPTION | LEFT GRAVEL SHOULDER | LEFT LANE & PAVED SHOULDER | RIGHT LANE & PAVED SHOULDER | RIGHT GRAVEL SHOULDER |
|---|---|---|---|---|---|
| 288+71 | BEGIN RECONSTRUCT | - | -2.00% | 1.80% | - |
| 288+75 | REVERSE CROWN | -4.00% | -2.00% | 2.00% | -4.00% |
| 288+89 | BEGIN/END FULL SUPER | -4.00% | -2.60% | 2.60% | -4.00% |
| 289+21 | REVERSE CROWN | -4.00% | -2.00% | -2.00% | -4.00% |
| 290+26 | LEVEL CROWN | -4.00% | -2.60% | 0.00% | -4.00% |
| 291+13 | BEGIN NORMAL CROWN | -4.00% | -2.00% | -2.00% | -4.00% |

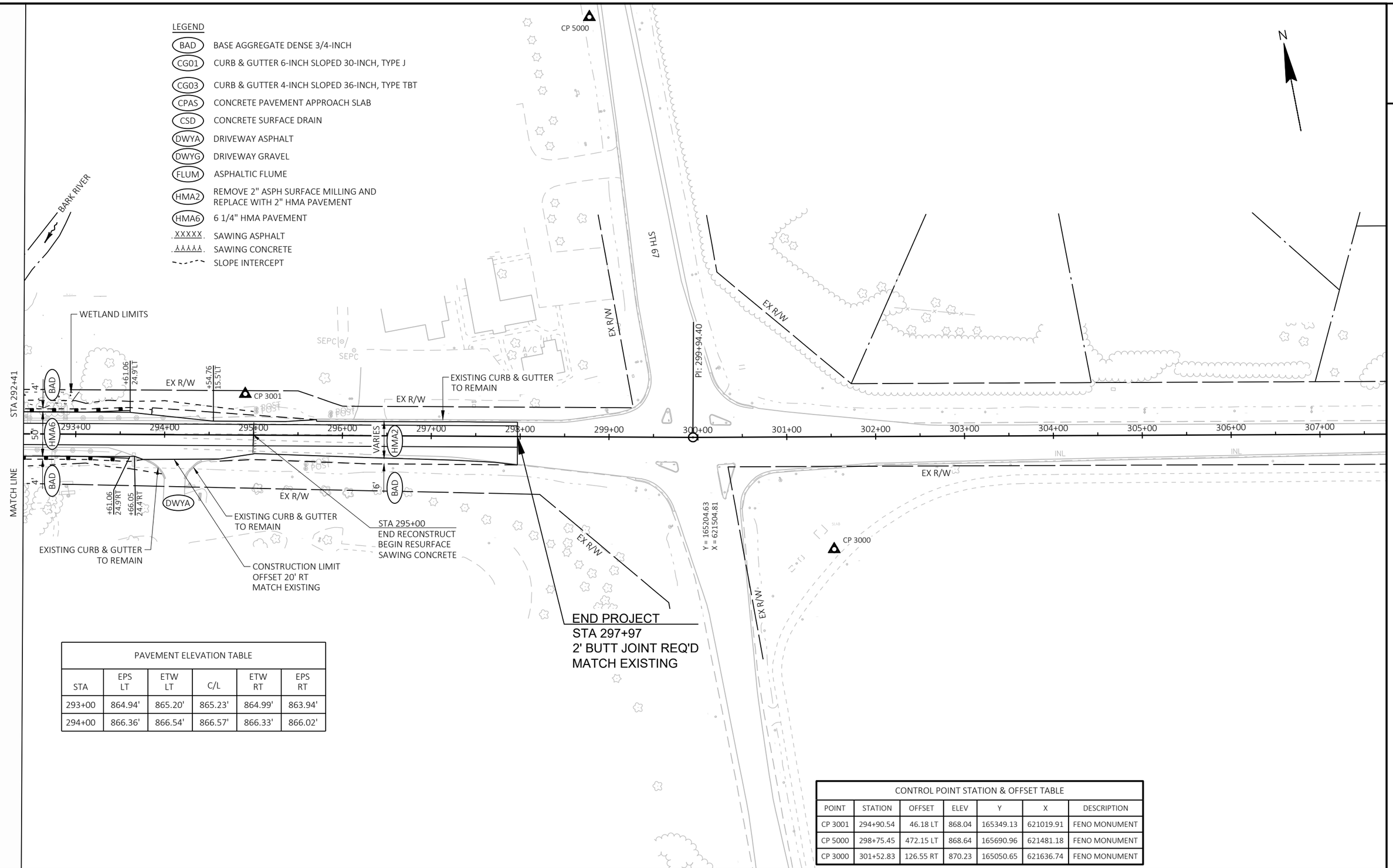
PI STA = 289+94.43
Y = 165401.600
X = 620524.273
DELTA = 4°59'48"
D = 2°00'05"
T = 124.91'
L = 249.66'
R = 2862.88'
PC STA = 288+69.52
Y = 165436.773
X = 620404.418
PT STA = 291+19.18
Y = 165377.000
X = 620646.736
BK = S73°38'42.3"E
AH = S78°38'29.8"E

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 36 | E |
|---|---|---|---|---|---|

2

LEGEND

| | |
|---|---|
| BAD | BASE AGGREGATE DENSE 3/4-INCH |
| CG01 | CURB & GUTTER 6-INCH SLOPED 30-INCH, TYPE J |
| CG03 | CURB & GUTTER 4-INCH SLOPED 36-INCH, TYPE TBT |
| CPAS | CONCRETE PAVEMENT APPROACH SLAB |
| CSD | CONCRETE SURFACE DRAIN |
| DWYA | DRIVEWAY ASPHALT |
| DWYG | DRIVEWAY GRAVEL |
| FLUM | ASPHALTIC FLUME |
| HMA2 | REMOVE 2" ASPH SURFACE MILLING AND REPLACE WITH 2" HMA PAVEMENT |
| HMA6 | 6 1/4" HMA PAVEMENT |
| XXXXX | SAWING ASPHALT |
| AAAAA | SAWING CONCRETE |
| | SLOPE INTERCEPT |




PAVEMENT ELEVATION TABLE

| STA | EPS LT | ETW LT | C/L | ETW RT | EPS RT |
|---|---|---|---|---|---|
| 293+00 | 864.94' | 865.20' | 865.23' | 864.99' | 863.94' |
| 294+00 | 866.36' | 866.54' | 866.57' | 866.33' | 866.02' |

CONTROL POINT STATION & OFFSET TABLE

| POINT | STATION | OFFSET | ELEV | Y | X | DESCRIPTION |
|---|---|---|---|---|---|---|
| CP 3001 | 294+90.54 | 46.18 LT | 868.04 | 165349.13 | 621019.91 | FENO MONUMENT |
| CP 5000 | 298+75.45 | 472.15 LT | 868.64 | 165690.96 | 621481.18 | FENO MONUMENT |
| CP 3000 | 301+52.83 | 126.55 RT | 870.23 | 165050.65 | 621636.74 | FENO MONUMENT |

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PLAN DETAILS - USH 18 | SHEET 37 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\021202-PD-USH 18.DWG
LAYOUT NAME - 021216-pd
PLOT DATE : 3/20/2023 12:46 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- SURFACE WATER FLOW

FOX RIVER

N

EXISTING R/W

WETLAND LIMITS, TYP

STH 59 WB

STH 59 EB

FOX RIVER PARKWAY

FOX RIVER TRAIL

CONSTRUCTION LIMITS
STA 76+84

CONSTRUCTION LIMITS
STA 82+80

76+00 77+00 78+00 79+00 80+00 81+00 82+00 83+00

## RUNOFF COEFFICIENT TABLE

| | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | |
| LAND USE: | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER |
| ROW CROPS | .08<br>.22 | .16<br>.30 | .22<br>.38 | .12<br>.26 | .20<br>.34 | .27<br>.44 | .15<br>.30 | .24<br>.37 | .33<br>.50 | .19<br>.34 | .28<br>.41 | .38<br>.56 |
| MEDIAN STRIP-<br>TURF | .19<br>.24 | .20<br>.26 | .24<br>.30 | .19<br>.25 | .22<br>.28 | .26<br>.33 | .20<br>.26 | .23<br>.30 | .30<br>.37 | .20<br>.27 | .25<br>.32 | .30<br>.40 |
| SIDE SLOPE-<br>TURF | | | .25<br>.32 | | | .27<br>.34 | | | .28<br>.36 | | | .30<br>.38 |
| PAVEMENT: | | | | | | | | | | | | |
| ASPHALT | .70 - .95 | | | | | | | | | | | |
| CONCRETE | .80 - .95 | | | | | | | | | | | |
| BRICK | .70 - .80 | | | | | | | | | | | |
| DRIVES, WALKS | .75 - .85 | | | | | | | | | | | |
| ROOFS | .75 - .95 | | | | | | | | | | | |
| GRAVEL ROADS, SHOULDERS | .40 - .60 | | | | | | | | | | | |

TOTAL PROJECT AREA = 51.14 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 20.43 ACRES

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | EROSION CONTROL: STH 59 | SHEET 38 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\022001-EC-STH 59.DWG
LAYOUT NAME - 01
PLOT DATE : 1/27/2023 1:22 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

2

NOTE: TEMPORARY SHEET PILING REMOVAL IS NOT AN INSTREAM DISTURBANCE

LEGEND

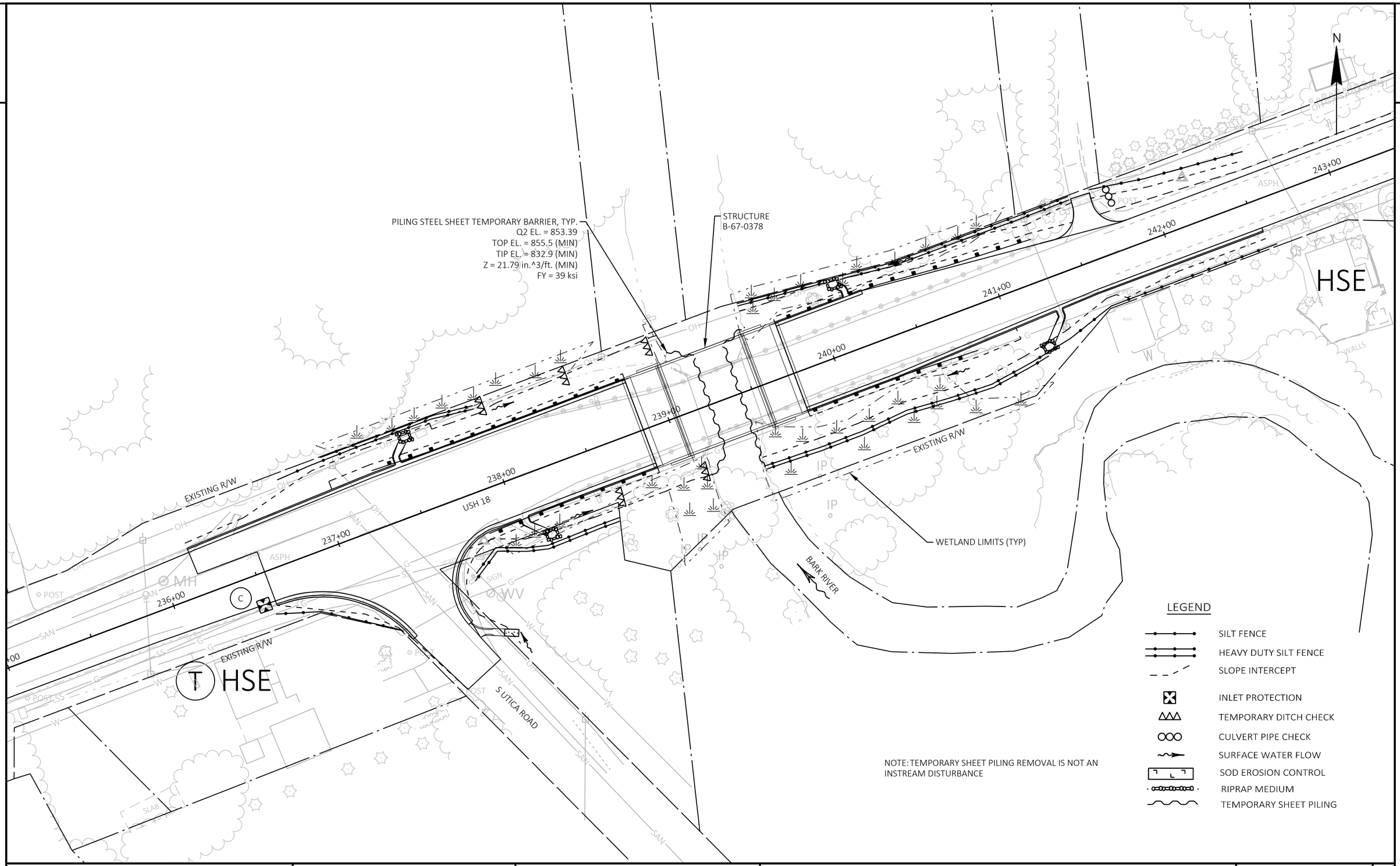
- SILT FENCE
- HEAVY DUTY SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- SOD EROSION CONTROL
- RIPRAP MEDIUM
- TEMPORARY SHEET PILING

N

203+00
204+00
205+00
206+00
207+00
208+00
209+00
210+00
USH 18
EXISTING R/W
EXISTING R/W
BARK RIVER
STRUCTURE B-67-0377
ASPH
ASPH
WETLAND LIMITS (TYP)
PILING STEEL SHEET TEMPORARY BARRIER, TYP.
Q2 EL. = 848.96
TOP EL. = 851.0 (MIN)
TIP EL. = 826.5 (MIN)
Z = 21.79 in.^3/ft. (MIN)
FY = 39 ksi

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | EROSION CONTROL: USH 18 (B-67-0377) | SHEET 39 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\022001-EC-USH 18.DWG
LAYOUT NAME - 01
PLOT DATE : 3/21/2023 12:58 PM
PLOT BY : JESSICA LEWIS, PE
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | EROSION CONTROL: USH 18 (B-67-0378) | SHEET 40 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\022001-EC-USH 18.DWG
LAYOUT NAME - 02
PLOT DATE : 3/21/2023 12:58 PM PLOT BY : JESSICA LEWIS, PE PLOT NAME : PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

2

N

ADJUST TIP ELEVATION OVER WATERMAIN

STRUCTURE B-67-0379

PILING STEEL SHEET TEMPORARY BARRIER, TYP.
Q2 EL. = 859.56
TOP EL. = 861.7 (MIN)
TIP EL. = 844.0 (MIN)
Z = 21.79 in.^3/ft. (MIN)
FY = 39 ksi

288+00
289+00
290+00
291+00
292+00
293+00
294+00
295+00

USH 18

EXISTING R/W

BARK RIVER

APPROXIMATE LOCATION OF NEW GAS MAIN. ADJUST TIP ELEVATION (GAS MAIN ELEV = 848.50)

WETLAND LIMITS (TYP)

NOTE: TEMPORARY SHEET PILING REMOVAL IS NOT AN INSTREAM DISTURBANCE

LEGEND

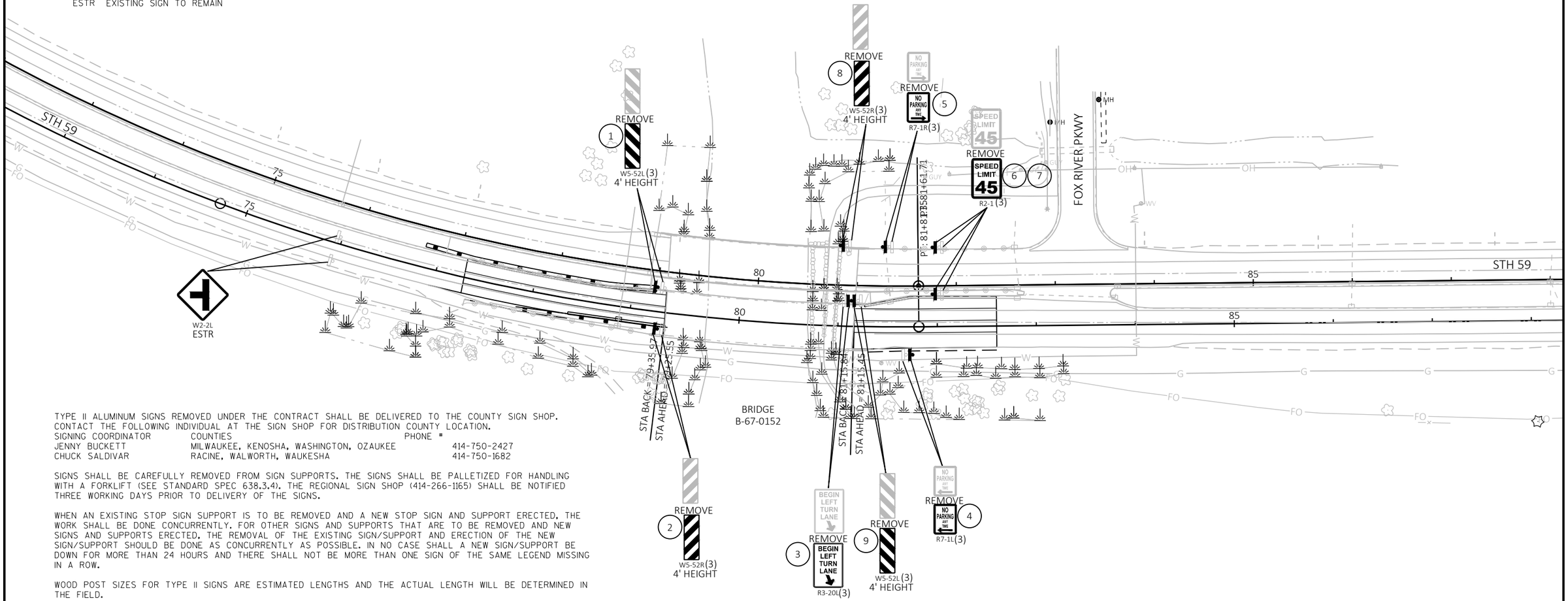
- SILT FENCE
- HEAVY DUTY SILT FENCE
- SLOPE INTERCEPT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- SOD EROSION CONTROL
- RIPRAP MEDIUM
- TEMPORARY SHEET PILING

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | EROSION CONTROL: USH 18 (B-67-0379) | SHEET 41 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\022001-EC-USH 18.DWG
LAYOUT NAME - 03
PLOT DATE : 3/21/2023 12:58 PM
PLOT BY : JESSICA LEWIS, PE
PLOT NAME :
PLOT SCALE : 1 IN:50 FT

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN




TYPE II ALUMINUM SIGNS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE COUNTY SIGN SHOP. CONTACT THE FOLLOWING INDIVIDUAL AT THE SIGN SHOP FOR DISTRIBUTION COUNTY LOCATION.

| SIGNING COORDINATOR | COUNTIES | PHONE # |
|---|---|---|
| JENNY BUCKETT | MILWAUKEE, KENOSHA, WASHINGTON, OZAUKEE | 414-750-2427 |
| CHUCK SALDIVAR | RACINE, WALWORTH, WAUKESHA | 414-750-1682 |

SIGNS SHALL BE CAREFULLY REMOVED FROM SIGN SUPPORTS. THE SIGNS SHALL BE PALLETIZED FOR HANDLING WITH A FORKLIFT (SEE STANDARD SPEC 638.3.4). THE REGIONAL SIGN SHOP (414-266-1165) SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

WHEN AN EXISTING STOP SIGN SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED, THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POST SIZES FOR TYPE II SIGNS ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (CITY, VILLAGE OR TOWN). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.

BOX OUT OR CORING OF CONCRETE SIGN POSTS IS INCIDENTAL TO THE POST



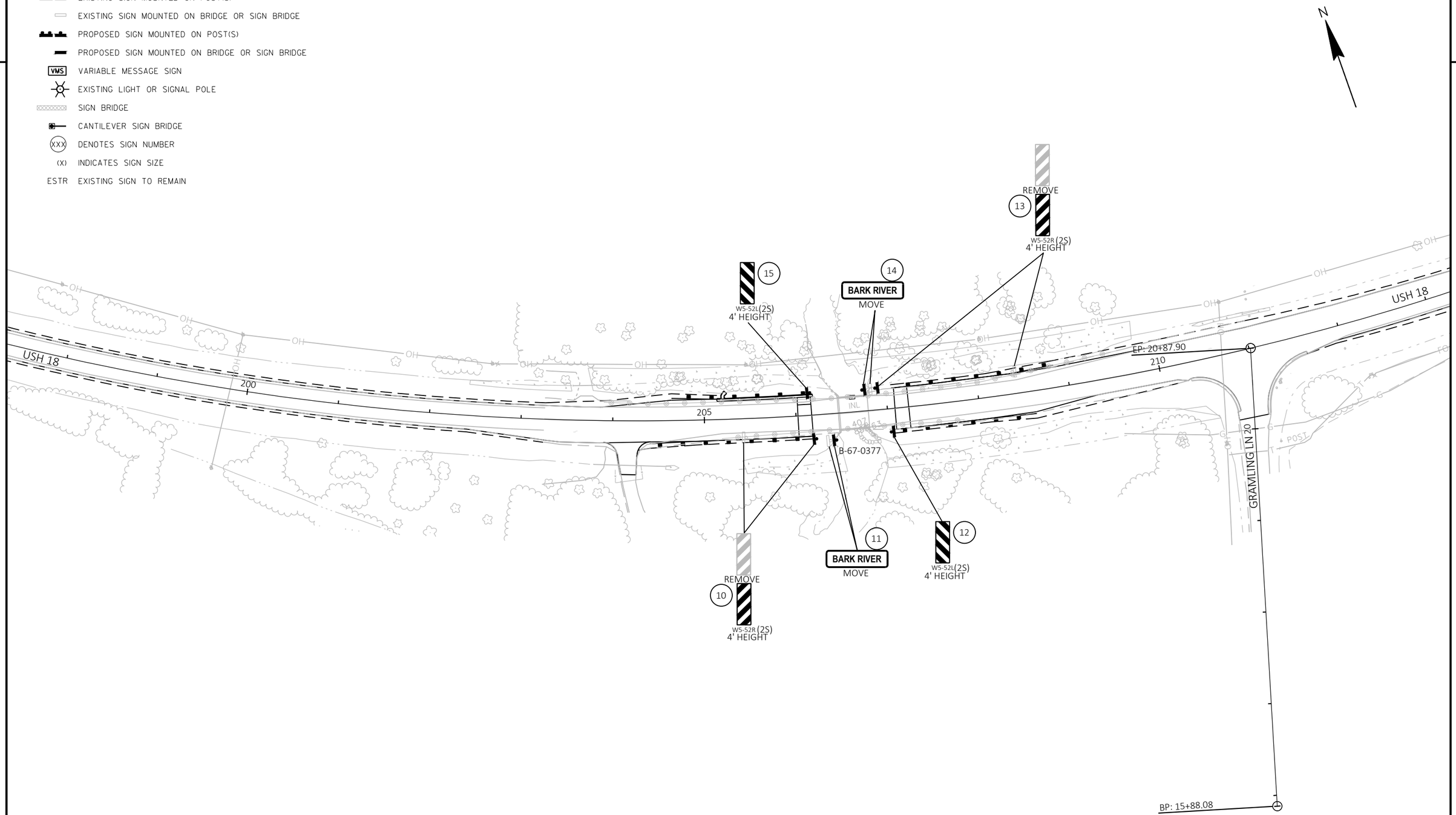
| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PERMANENT SIGNING | SHEET 42 | E |
|---|---|---|---|---|---|

FILE NAME : N:\PDS\C3D\CAD\27150303\SIGN\023201_PS.DWG
LAYOUT NAME - 01
PLOT DATE : 12/15/2022 1:37 PM
PLOT BY : WAGNER, SCOTT H
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN




SHEET 2 OF 4

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PERMANENT SIGNING | SHEET 43 | E |
|---|---|---|---|---|---|

FILE NAME : N:\PDS\C3D\CAD\27150303\SIGN\023201_PS.DWG
LAYOUT NAME - 02

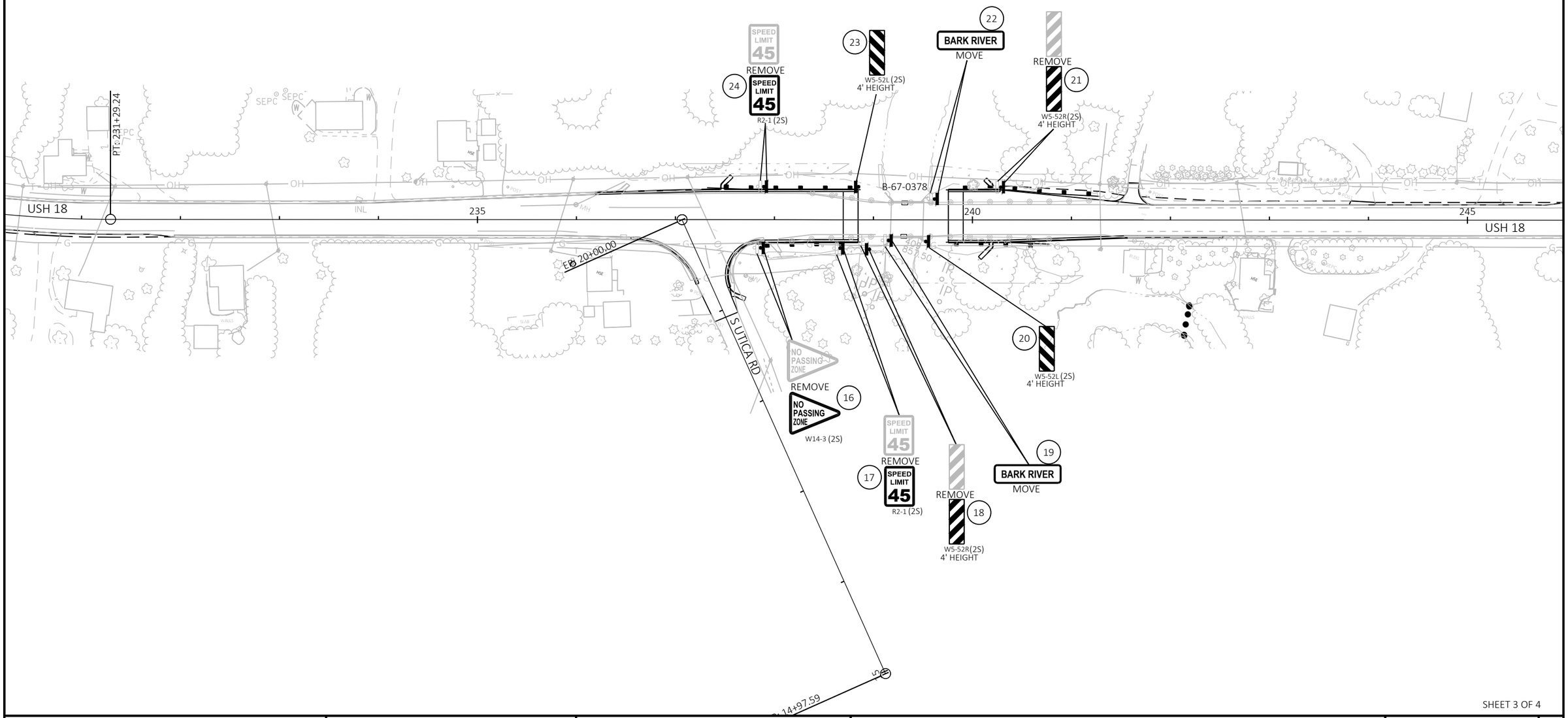
PLOT DATE : 12/15/2022 1:38 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN




SHEET 3 OF 4

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PERMANENT SIGNING | SHEET 44 | E |
|---|---|---|---|---|---|

FILE NAME : N:\PDS\C3D\CAD\27150303\SIGN\023201_PS.DWG
LAYOUT NAME - 03

PLOT DATE : 12/15/2022 1:38 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

PROPOSED SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

VMS VARIABLE MESSAGE SIGN

EXISTING LIGHT OR SIGNAL POLE

SIGN BRIDGE

CANTILEVER SIGN BRIDGE

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN

N

STH 67

USH 18

B-67-0379

PC: 288+69.52

PT: 291+19.18

PI: 299+94.40

290

295

300

35 W11-2 35 MPH W13-1 MOVE

34 W5-52L(2S) 4' HEIGHT

33 REMOVE W5-52R(2S) 4' HEIGHT

32 ALTERNATE INTERSTATE 94 J3-1 MOVE

SPEED LIMIT 45 REMOVE

31 SPEED LIMIT 45 R2-1(2S)

25 HISTORICAL MARKER D5-64R MOVE

26 REMOVE W5-52R(2S) 4' HEIGHT

27 W5-52L(2S) 4' HEIGHT

29A ALTERNATE INTERSTATE 94 MOVE

29 NORTH EAST SOUTH 67 18 67 J2-4 MOVE

28 W3-3 MOVE

30 ONLY R3-8LF MOVE

SHEET 4 OF 4

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PERMANENT SIGNING | SHEET 45 | E |
|---|---|---|---|---|---|

FILE NAME : N:\PDS\C3D\CAD\27150303\SIGN\023201_PS.DWG
LAYOUT NAME - 04

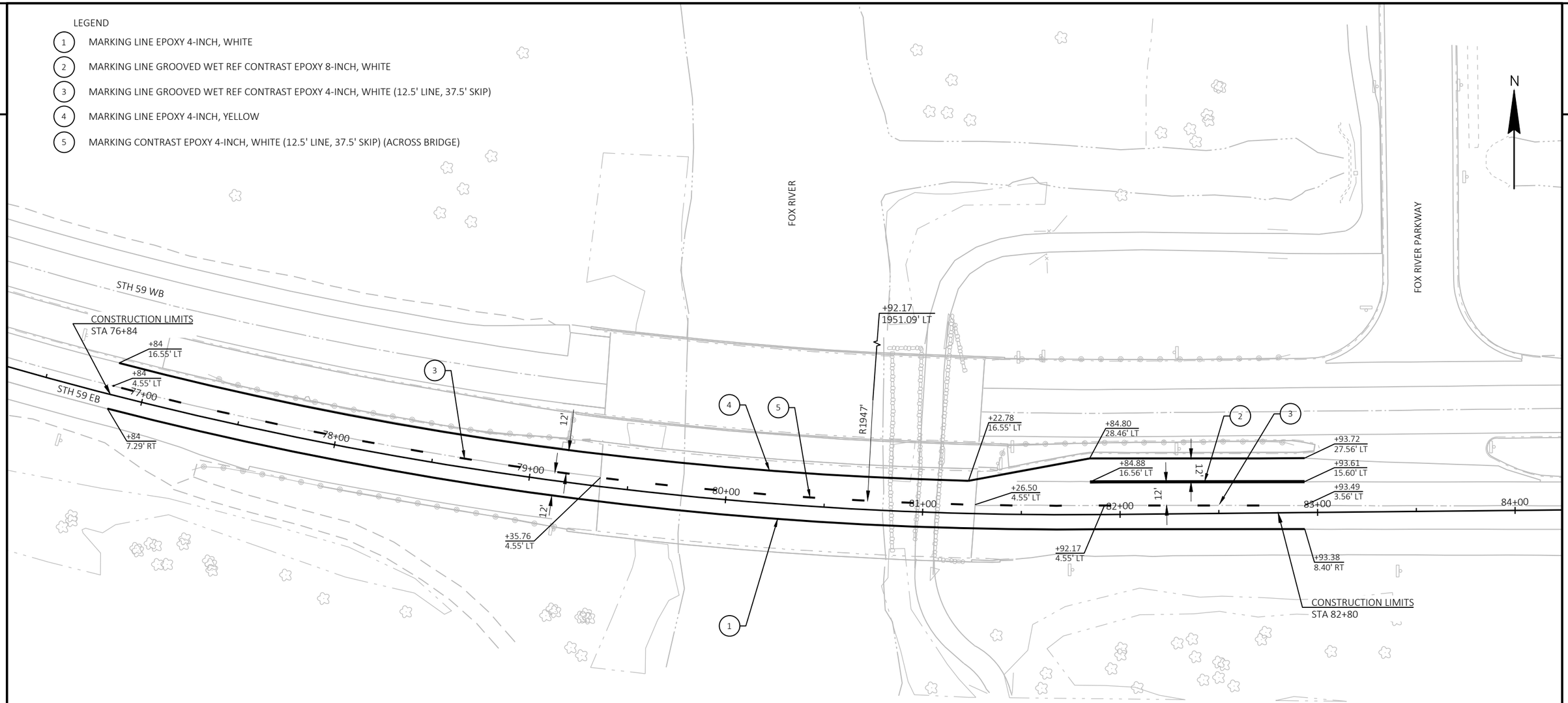
PLOT DATE : 12/15/2022 1:38 PM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

1. MARKING LINE EPOXY 4-INCH, WHITE
2. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE
3. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (12.5' LINE, 37.5' SKIP)
4. MARKING LINE EPOXY 4-INCH, YELLOW
5. MARKING CONTRAST EPOXY 4-INCH, WHITE (12.5' LINE, 37.5' SKIP) (ACROSS BRIDGE)




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PAVEMENT MARKING - STH 59 | SHEET 46 | E |
|---|---|---|---|---|---|

2

2

BEGIN PROJECT
STA 72+67

+67
12.0' LT

+67
12.0' RT

72

74

76

78

80

USH 18

82

84

12'

12'

1

4

3

1

MATCH LINE 85+75

LEGEND

1. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (12.5' - 37.5' SKIP)
3. MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
4. ESTABLISH NO PASSING ZONES PER SPEC 648
5. MARKING STOP LINE EPOXY 18-INCH
6. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
7. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (3' LINE, 9' SKIP)
8. MARKING DIAGONAL EPOXY 12-INCH, YELLOW
9. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE
10. MARKING CONTRAST EPOXY 4-INCH, WHITE (ACROSS BRIDGE)
11. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE (3' LINE, 9' SKIP)
12. MARKING WORD EPOXY
13. MARKING ARROW EPOXY

MATCH LINE 85+75

S GOLDEN LAKE RD

+90
19.0' LT

+41
12.0' LT

+87
17.2' LT

+60
12.0' LT

86

88

90

92

12'

12'

1

1

1

+04
32.7' LT

+93
14.6' LT

+89
12.0' LT

+12
32.7' LT

+99
13.3' LT

94

USH 18

+07
12.0' LT

96

98

100

4

3

+49
12.0' RT

+82
33.3' RT

+88
34.6' RT

+58
12.0' RT

6

5

1

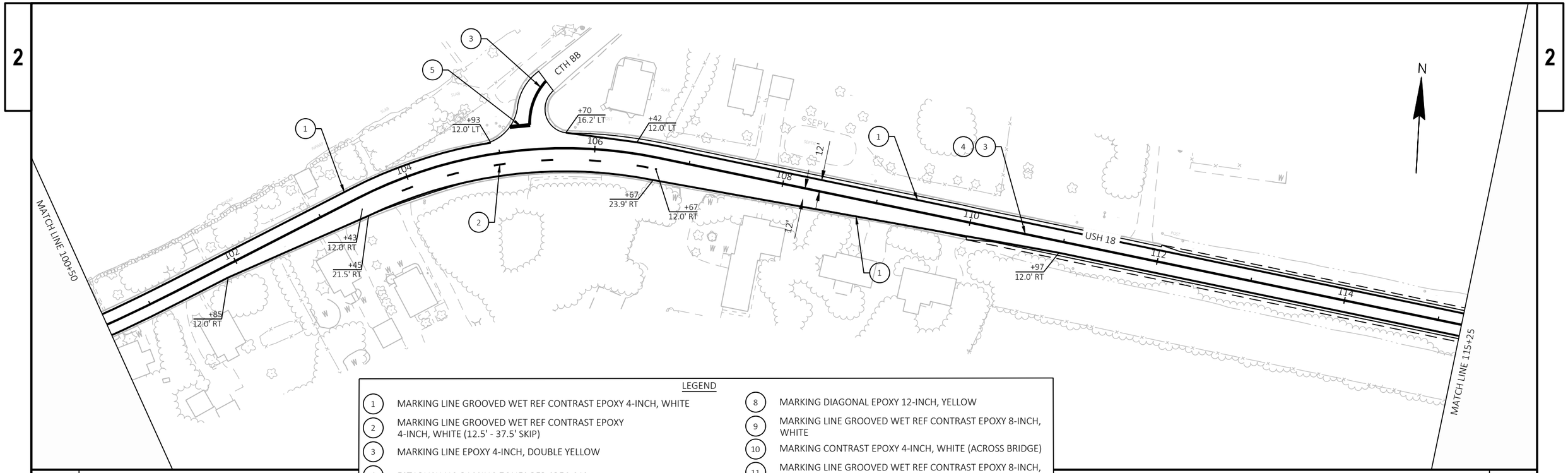
MATCH LINE 100+50

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PAVEMENT MARKING -USH 18 | SHEET 47 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\024502-PM-USH 18.DWG
LAYOUT NAME - 01

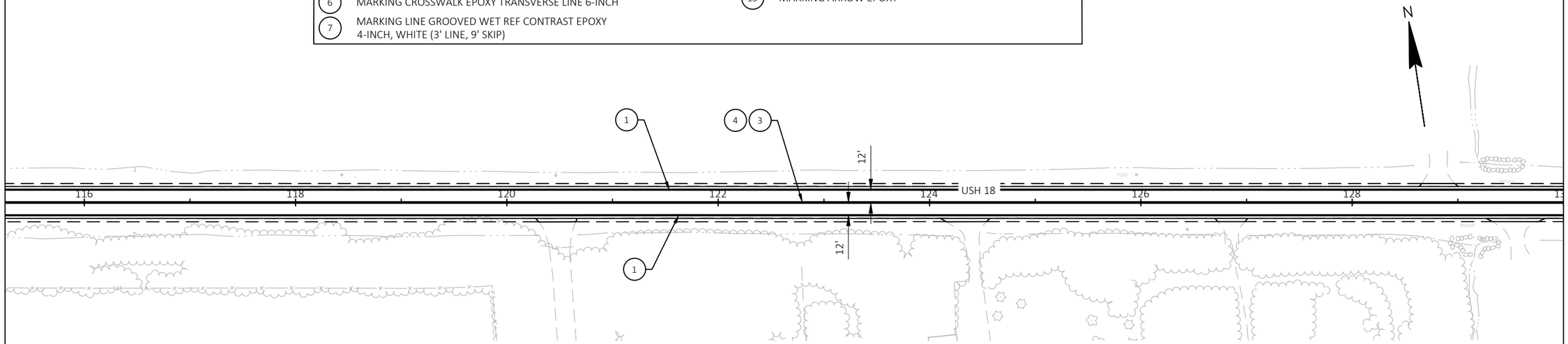
PLOT DATE : 1/31/2023 8:15 AM PLOT BY : JESSICA LEWIS, PE PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44




LEGEND

1. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (12.5' - 37.5' SKIP)
3. MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
4. ESTABLISH NO PASSING ZONES PER SPEC 648
5. MARKING STOP LINE EPOXY 18-INCH
6. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
7. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (3' LINE, 9' SKIP)
8. MARKING DIAGONAL EPOXY 12-INCH, YELLOW
9. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE
10. MARKING CONTRAST EPOXY 4-INCH, WHITE (ACROSS BRIDGE)
11. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE (3' LINE, 9' SKIP)
12. MARKING WORD EPOXY
13. MARKING ARROW EPOXY



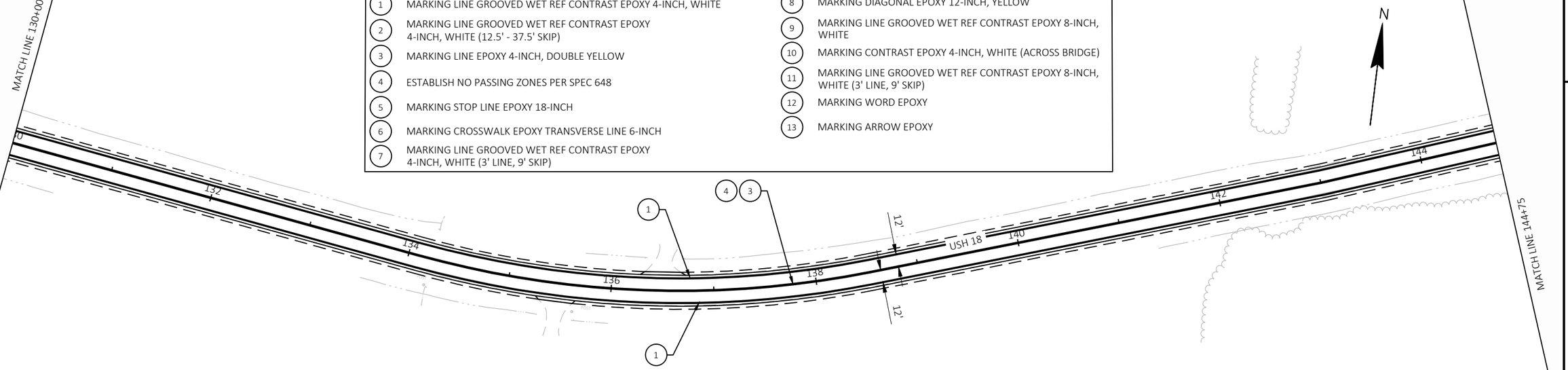

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PAVEMENT MARKING -USH 18 | SHEET 48 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\024502-PM-USH 18.DWG
LAYOUT NAME - 02
PLOT DATE : 1/31/2023 8:15 AM
PLOT BY : JESSICA LEWIS, PE
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

LEGEND

1. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (12.5' - 37.5' SKIP)
3. MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
4. ESTABLISH NO PASSING ZONES PER SPEC 648
5. MARKING STOP LINE EPOXY 18-INCH
6. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
7. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (3' LINE, 9' SKIP)
8. MARKING DIAGONAL EPOXY 12-INCH, YELLOW
9. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE
10. MARKING CONTRAST EPOXY 4-INCH, WHITE (ACROSS BRIDGE)
11. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE (3' LINE, 9' SKIP)
12. MARKING WORD EPOXY
13. MARKING ARROW EPOXY



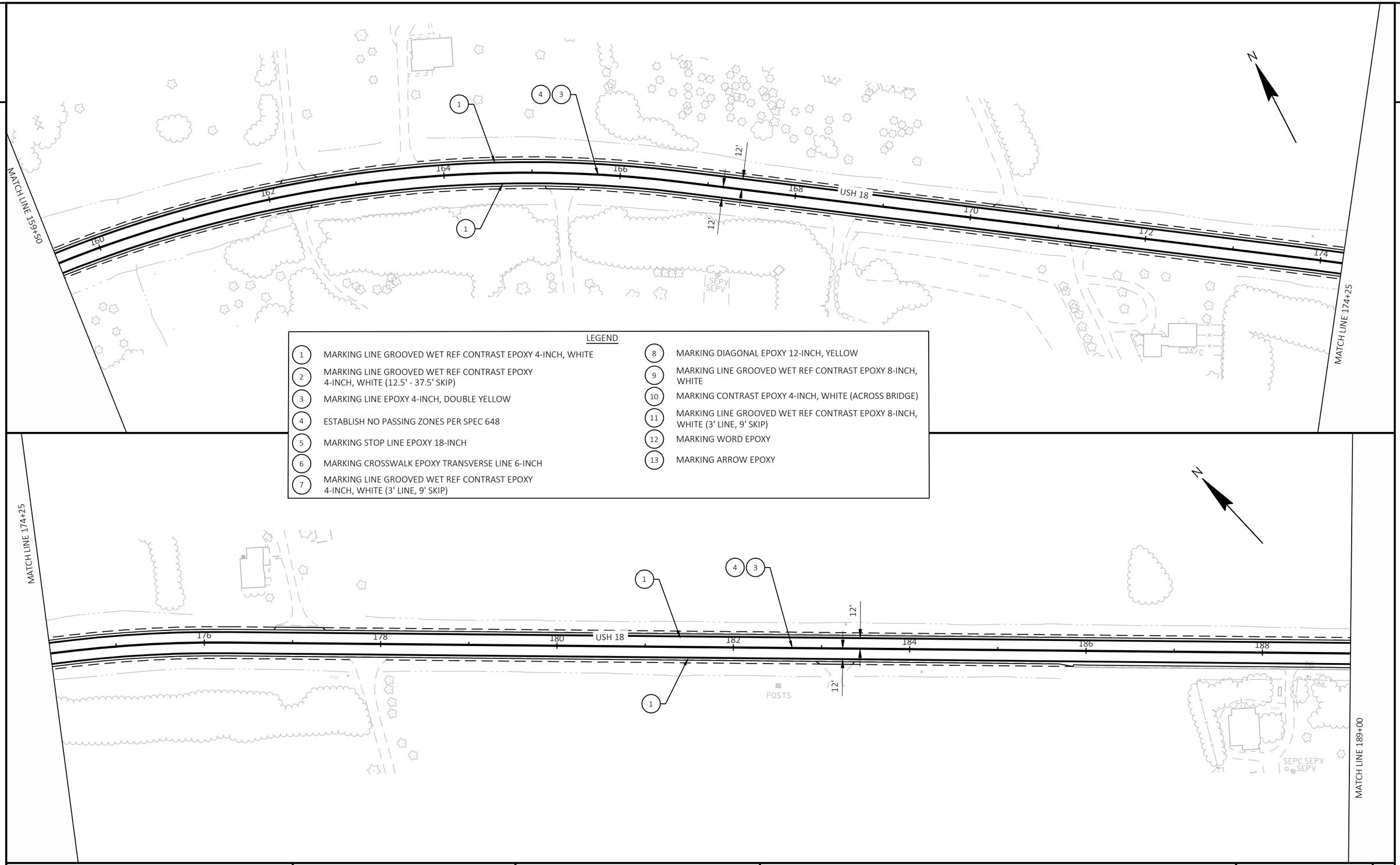




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PAVEMENT MARKING -USH 18 | SHEET 49 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\024502-PM-USH 18.DWG
LAYOUT NAME - 03
PLOT DATE : 1/31/2023 8:16 AM PLOT BY : JESSICA LEWIS, PE PLOT NAME : PLOT SCALE : 1 IN:100 FT

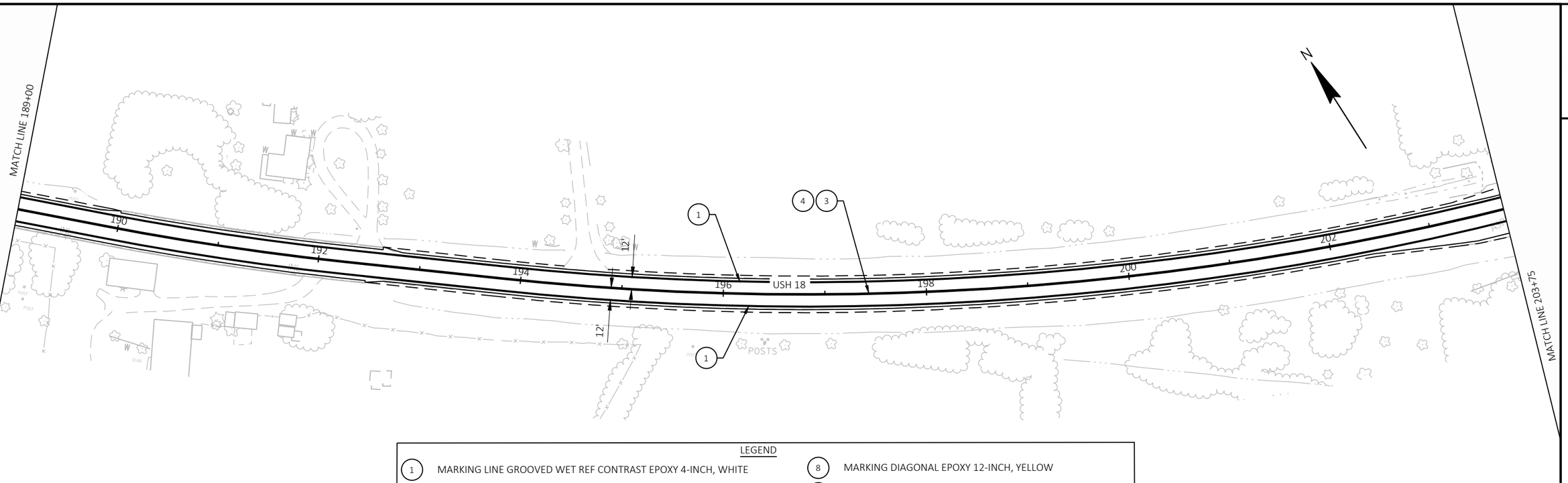
2




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PAVEMENT MARKING -USH 18 | SHEET 50 | E |
|---|---|---|---|---|---|

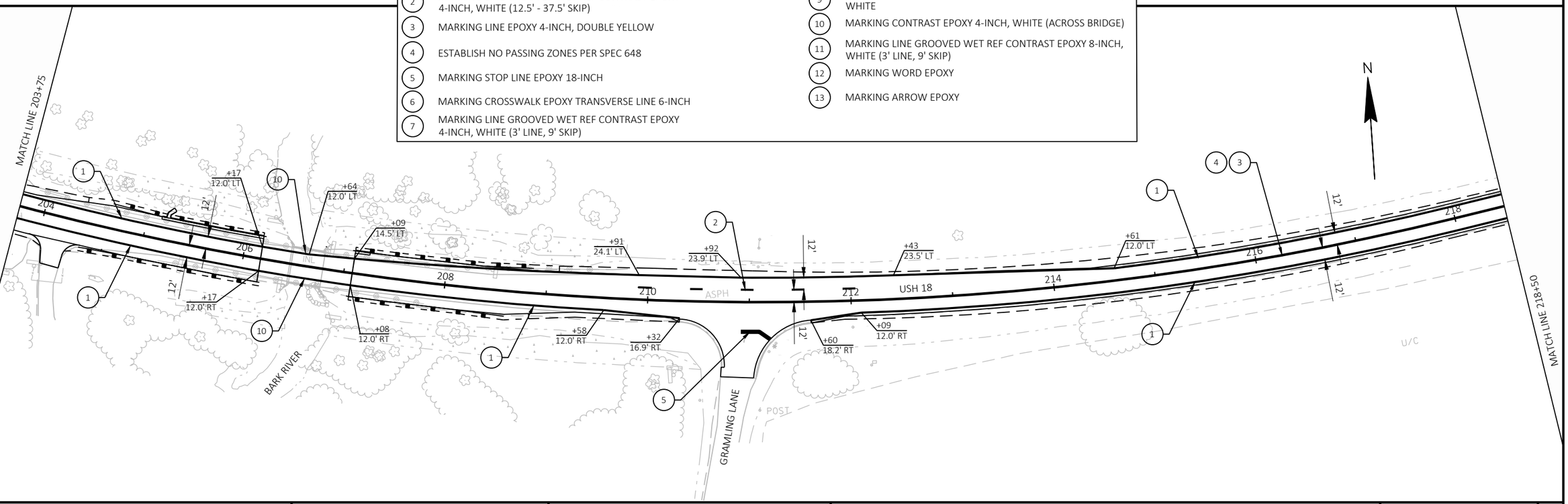
FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\024502-PM-USH 18.DWG
LAYOUT NAME - 04
PLOT DATE : 1/31/2023 8:16 AM PLOT BY : JESSICA LEWIS, PE PLOT NAME : PLOT SCALE : 1 IN:100 FT

2




LEGEND

1. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (12.5' - 37.5' SKIP)
3. MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
4. ESTABLISH NO PASSING ZONES PER SPEC 648
5. MARKING STOP LINE EPOXY 18-INCH
6. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
7. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (3' LINE, 9' SKIP)
8. MARKING DIAGONAL EPOXY 12-INCH, YELLOW
9. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE
10. MARKING CONTRAST EPOXY 4-INCH, WHITE (ACROSS BRIDGE)
11. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE (3' LINE, 9' SKIP)
12. MARKING WORD EPOXY
13. MARKING ARROW EPOXY



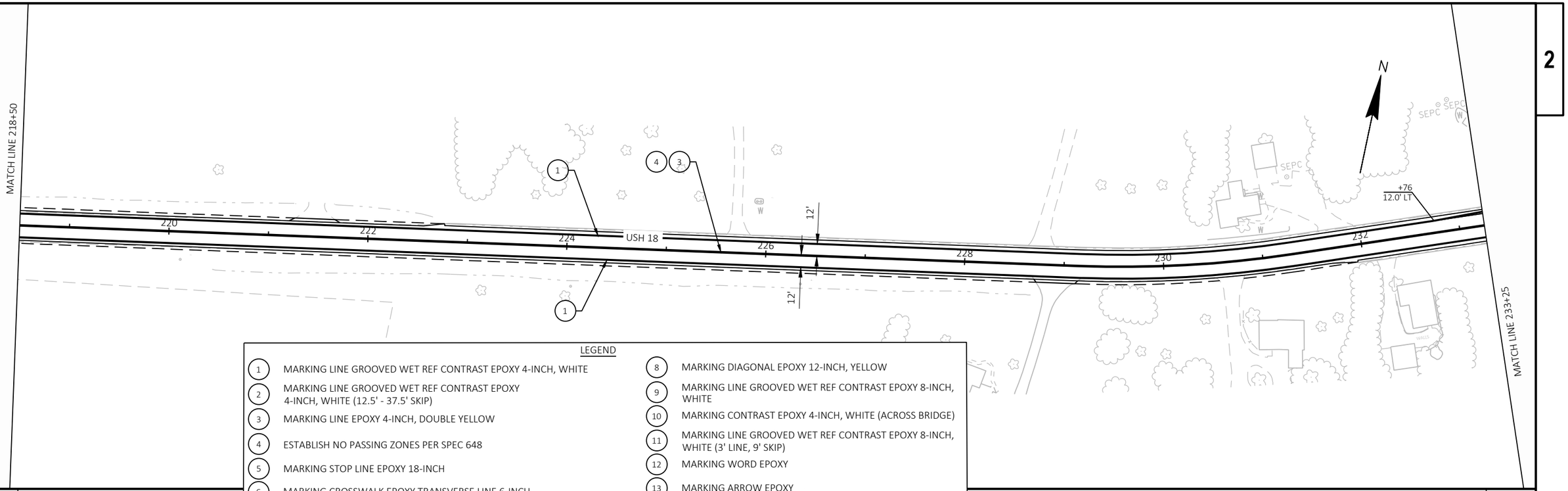

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PAVEMENT MARKING -USH 18 | SHEET 51 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\024502-PM-USH 18.DWG
LAYOUT NAME - 05

PLOT DATE : 1/31/2023 8:17 AM PLOT BY : JESSICA LEWIS, PE PLOT NAME : PLOT SCALE : 1 IN:100 FT

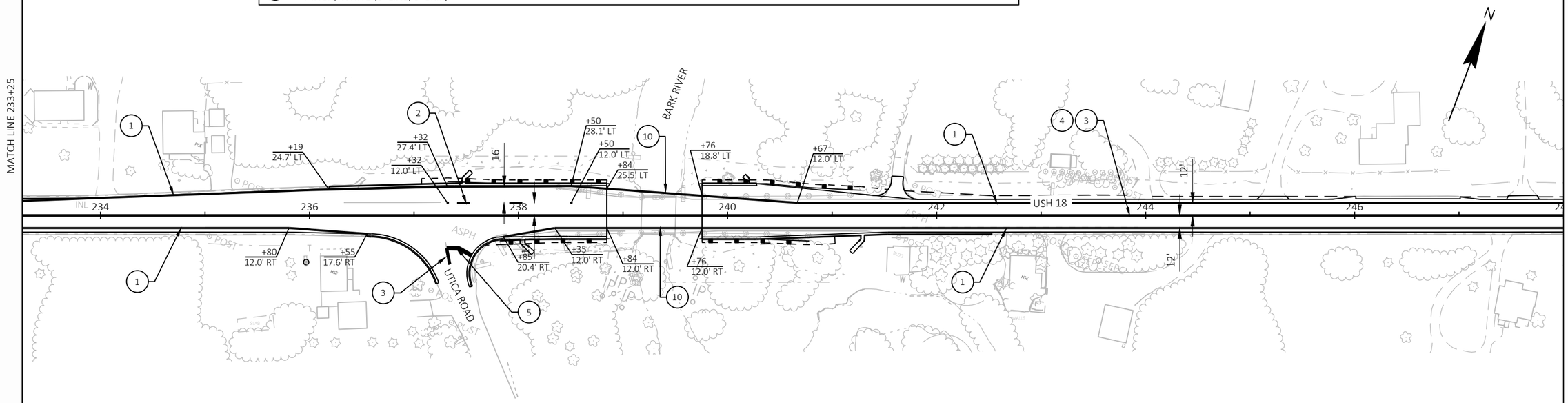
WISDOT/CADDS SHEET 44

2




LEGEND

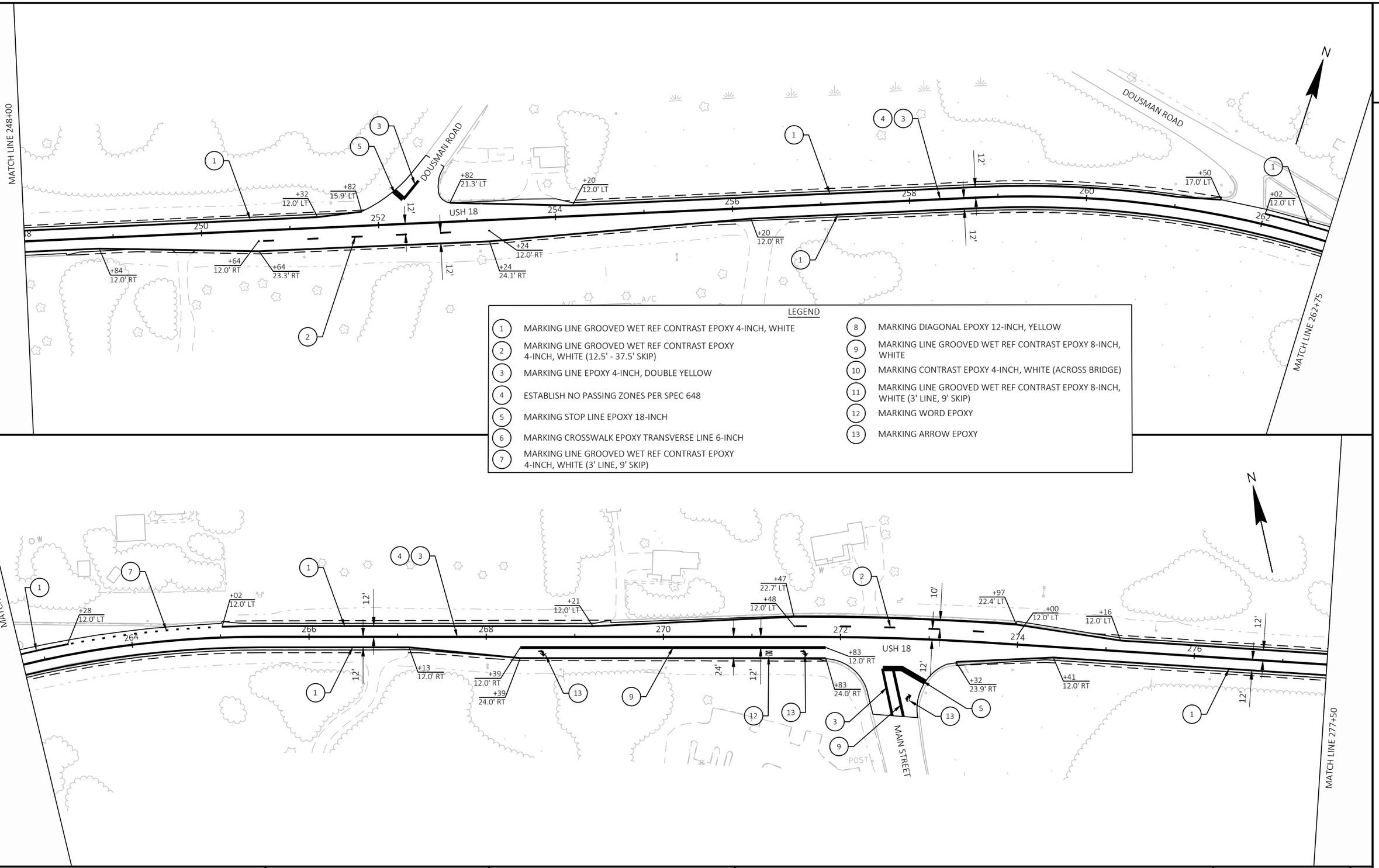
1. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (12.5' - 37.5' SKIP)
3. MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
4. ESTABLISH NO PASSING ZONES PER SPEC 648
5. MARKING STOP LINE EPOXY 18-INCH
6. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
7. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (3' LINE, 9' SKIP)
8. MARKING DIAGONAL EPOXY 12-INCH, YELLOW
9. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE
10. MARKING CONTRAST EPOXY 4-INCH, WHITE (ACROSS BRIDGE)
11. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE (3' LINE, 9' SKIP)
12. MARKING WORD EPOXY
13. MARKING ARROW EPOXY




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PAVEMENT MARKING -USH 18 | SHEET 52 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\024502-PM-USH 18.DWG
LAYOUT NAME - 06
PLOT DATE : 1/31/2023 8:17 AM
PLOT BY : JESSICA LEWIS, PE
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

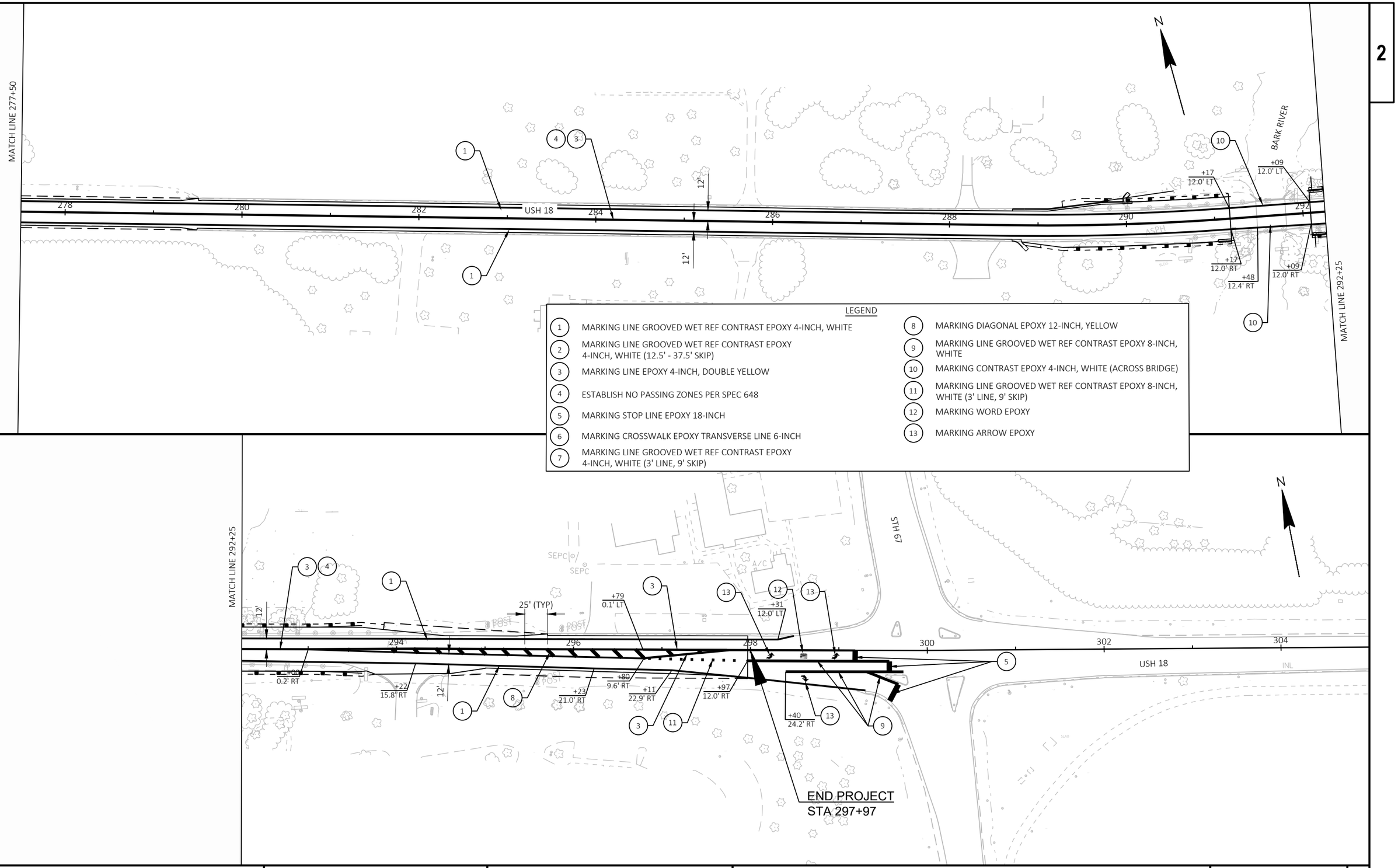



LEGEND

1. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (12.5' - 37.5' SKIP)
3. MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
4. ESTABLISH NO PASSING ZONES PER SPEC 648
5. MARKING STOP LINE EPOXY 18-INCH
6. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
7. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (3' LINE, 9' SKIP)
8. MARKING DIAGONAL EPOXY 12-INCH, YELLOW
9. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE
10. MARKING CONTRAST EPOXY 4-INCH, WHITE (ACROSS BRIDGE)
11. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE (3' LINE, 9' SKIP)
12. MARKING WORD EPOXY
13. MARKING ARROW EPOXY

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PAVEMENT MARKING -USH 18 | SHEET 53 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\024502-PM-USH 18.DWG
LAYOUT NAME - 07
PLOT DATE : 1/31/2023 8:18 AM
PLOT BY : JESSICA LEWIS, PE
PLOT NAME :
PLOT SCALE : 1 IN:100 FT




LEGEND

1. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE
2. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH, WHITE (12.5' - 37.5' SKIP)
3. MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
4. ESTABLISH NO PASSING ZONES PER SPEC 648
5. MARKING STOP LINE EPOXY 18-INCH
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10. MARKING CONTRAST EPOXY 4-INCH, WHITE (ACROSS BRIDGE)
11. MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH, WHITE (3' LINE, 9' SKIP)
12. MARKING WORD EPOXY
13. MARKING ARROW EPOXY

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | PAVEMENT MARKING -USH 18 | SHEET 54 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\024502-PM-USH 18.DWG
LAYOUT NAME - 08
PLOT DATE : 1/31/2023 8:18 AM
PLOT BY : JESSICA LEWIS, PE
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

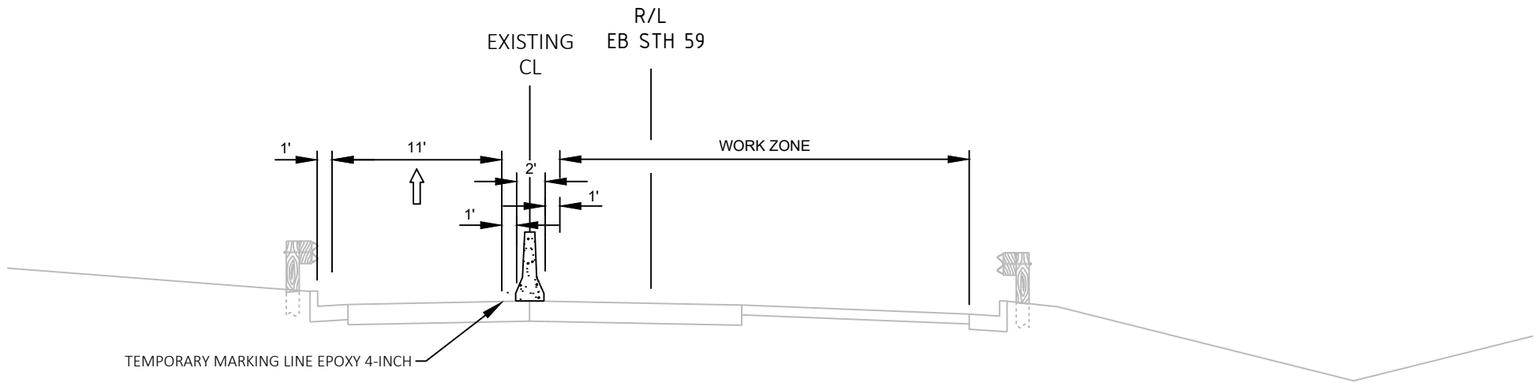
2

## GENERAL NOTES FOR CONSTRUCTION STAGING ON STH 59

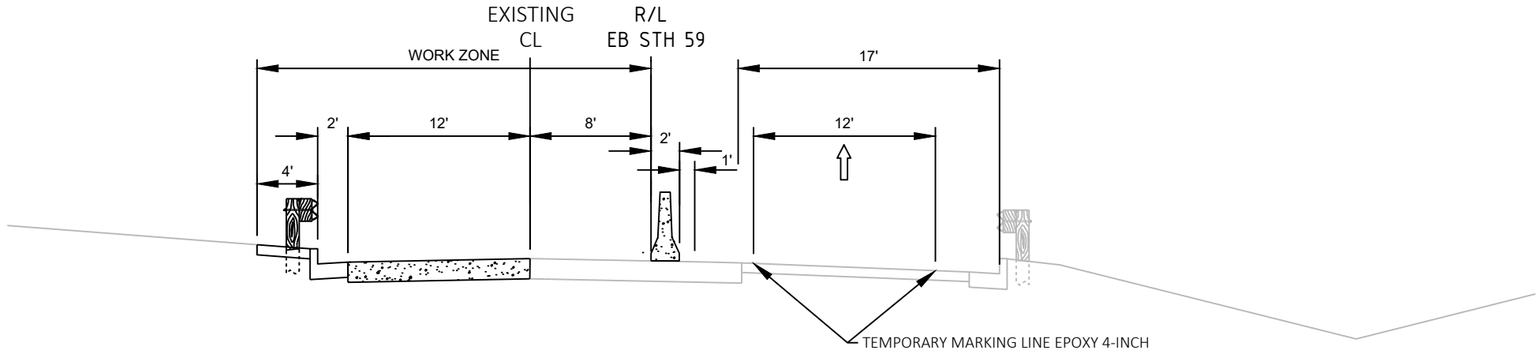
1. TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE "C", ONE WAY LIGHTS, UNLESS OTHERWISE SHOWN.
2. SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
3. SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF TYPE II SIGNS IS INCLUDED UNDER THE BID ITEM "TRAFFIC CONTROL COVERING SIGNS TYPE II". IN LIEU OF COVERING TYPE II SIGNS, THE CONTRACTOR MAY ELECT TO REMOVE AND REINSTALL THEM. THE COVERING OF ALL OR A PART OF A TYPE I SIGN MESSAGE SHALL BE PAID FOR UNDER THE BID ITEM "TRAFFIC CONTROL COVERING SIGNS TYPE I".
4. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
5. ALL TRAFFIC CONTROL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED IN THE PLANS.
6. A FLAGGER MAY BE REQUIRED WHERE THE CONSTRUCTION VEHICLES ENTER OR LEAVE "WORK/CLOSED" AREAS IF WARRANTED BY CONDITIONS AND/OR DIRECTED BY THE ENGINEER.
7. CONTRACTOR SHALL INSTALL PERMANENT SIGNS AND PERMANENT PAVEMENT MARKING WHEN APPROPRIATE DURING CONSTRUCTION STAGING AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
8. BARRICADE STRIPS SHALL POINT DOWNWARD IN THE DIRECTION OF TRAFFIC FLOW.
9. THE CONTRACTOR SHALL ENSURE ADEQUATE DRAINAGE AND AVOID ANY PONDING OR STANDING WATER DURING THE STAGED CONSTRUCTION.
10. TEMPORARY MARKINGS SHALL BE TEMPORARY TAPE WHEN PLACED ON NEW OR EXISTING PAVEMENT SURFACES THAT ARE TO REMAIN IN PLACE FOLLOWING CONSTRUCTION. EPOXY MAY BE USED ON EXISTING PAVEMENT OR BINDER HMA LAYERS THAT ARE TO BE REMOVED OR OVERLAID IN SUBSEQUENT STAGES.

| DISTANCE FROM EDGE OF TRAVELED WAY | DROP OFF AND HAZARD PROTECTION REQUIREMENTS |
|---|---|
| 0 - 8 FEET | DELINEATE VERTICAL DROP OFFS 2 INCHES OR GREATER OR SLOPES STEEPER THAN 3:1 WITH DRUMS, BARRICADES BY END OF WORK DAY.<br><br>ELIMINATE VERTICAL DROP OFFS 2 INCHES OR GREATER OR SLOPES STEEPER THAN 3:1 WITHIN 72 HOURS OR BEFORE A WEEKEND OF HOLIDAY WHICHEVER COMES FIRST.<br><br>DO NOT STORE MATERIALS, CONSTRUCTION EQUIPMENT AND OTHER CONSTRUCTION HAZARDS WITHIN 8 FEET OF TRAVELED WAY. |
| 8 - 15 FEET | DELINEATE VERTICAL DROP OFFS 4 INCHES OR GREATER OR SLOPES STEEPER THAN 3:1 WITH DRUMS, BARRICADES, OR BARRIER BY END OF WORK DAY. |

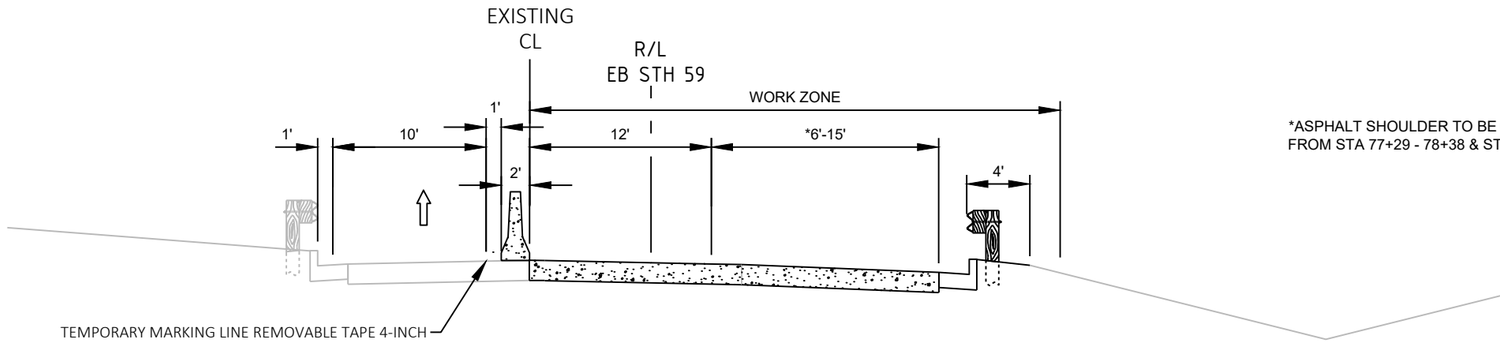
2




STAGE 1 TYPICAL SECTION-STH 59




STAGE 2 TYPICAL SECTION-STH 59




*ASPHALT SHOULDER TO BE COMPLETED
FROM STA 77+29 - 78+38 & STA 81+25 - 82+70

STAGE 3 TYPICAL SECTION-STH 59

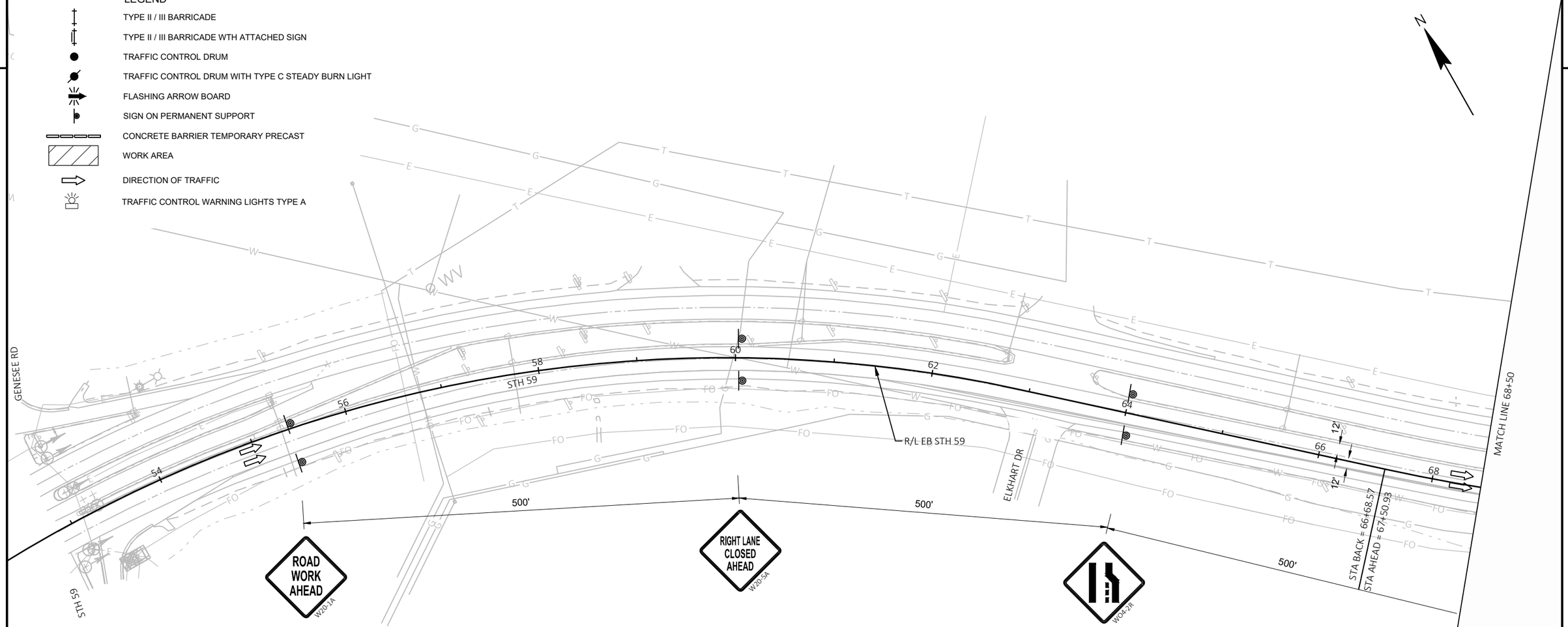
| PROJECT NO: 2715-03-73 | HWY: USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - TYPICAL SECTIONS | SHEET 56 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026001_TCTS.DWG
LAYOUT NAME - 01
PLOT DATE : 3/20/2023 12:55 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL WARNING LIGHTS TYPE A




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - STH 59 - STAGE 1 | SHEET 57 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026101_S1.DWG
LAYOUT NAME - 01

PLOT DATE : 1/27/2023 1:36 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

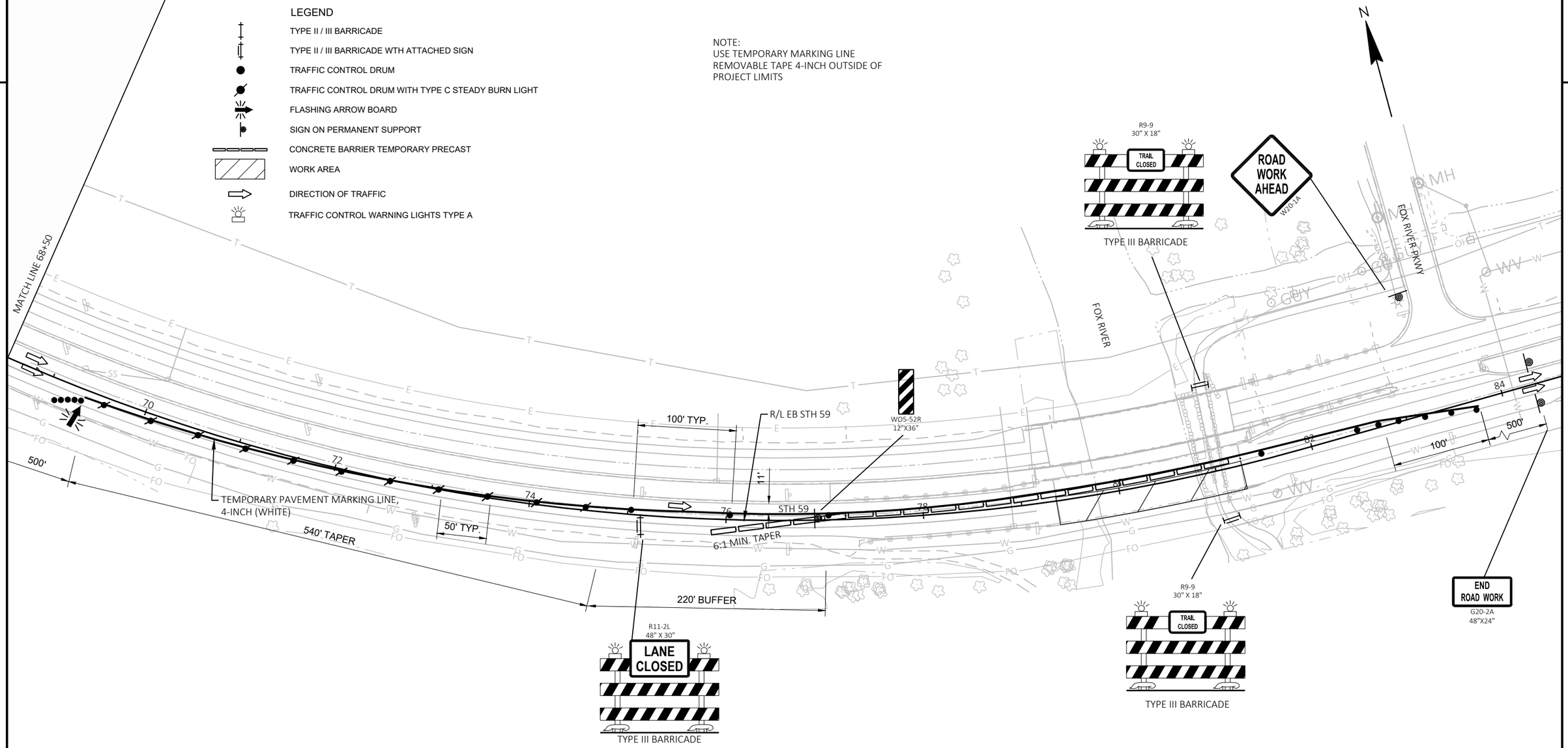
WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL WARNING LIGHTS TYPE A

NOTE:
USE TEMPORARY MARKING LINE
REMOVABLE TAPE 4-INCH OUTSIDE OF
PROJECT LIMITS



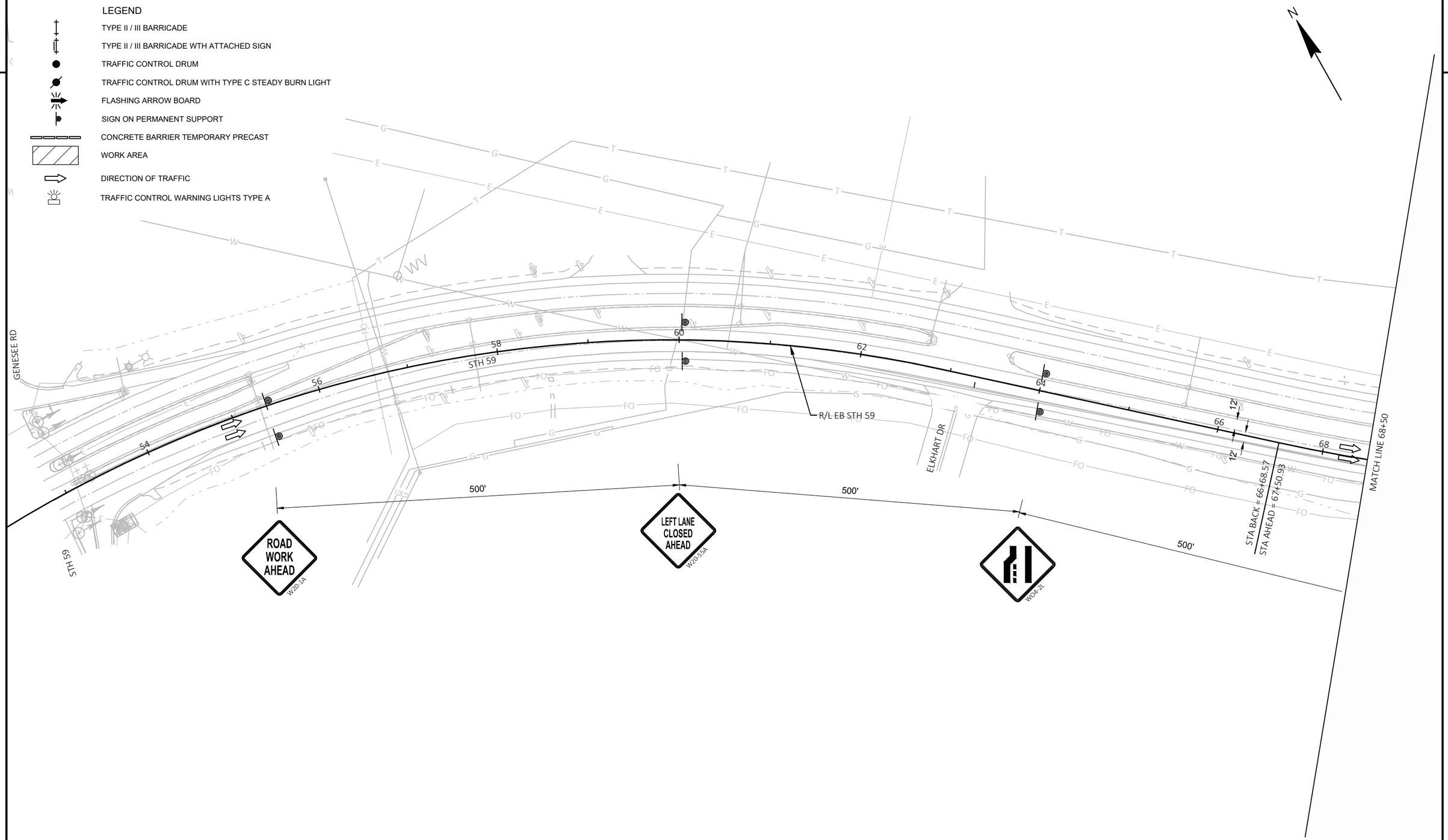

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - STH 59 - STAGE 1 | SHEET 58 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026101_S1.DWG
LAYOUT NAME - 02
PLOT DATE : 1/27/2023 1:36 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL WARNING LIGHTS TYPE A




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - STH 59 - STAGE 2 | SHEET 59 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026201_S2.DWG
LAYOUT NAME - 01
PLOT DATE : 1/27/2023 1:37 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL WARNING LIGHTS TYPE A

NOTE:
USE TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH OUTSIDE OF PROJECT LIMITS

N

R9-9
30" X 18"
TRAIL CLOSED
TYPE III BARRICADE

ROAD WORK AHEAD
W20-1A

FOX RIVER PKWY

FOX RIVER

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

MATCH LINE 68+50

TEMPORARY PAVEMENT MARKING LINE, 4-INCH (YELLOW)

100' TYP.

500'

R/L EB STH 59

70

72

74

STH 59

76

6:1 MIN. TAPER

78

80

82

84

12

MATCH LINE 84+10

50' TYP.

540' TAPER

220' BUFFER

WO5-52L
12"X36"

R9-9
30" X 18"
TRAIL CLOSED
TYPE III BARRICADE

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - STH 59 - STAGE 2 | SHEET 60 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026201_S2.DWG
LAYOUT NAME - 02
PLOT DATE : 1/27/2023 1:38 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL WARNING LIGHTS TYPE A

N

MATCH LINE 84+10

R/L EB STH 59

12'

STH 59

86 88 90 92 94 96 98

200' 100' 500'

FOX RIVER PKWY

END ROAD WORK
G20-2A
48"X24"

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - STH 59 - STAGE 2 | SHEET 61 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026201_S2.DWG
LAYOUT NAME - 03

PLOT DATE : 1/27/2023 1:38 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL WARNING LIGHTS TYPE A

N

EAST 59 M3-2 24"X12" M1-6 24"X24"

MAX. 10' WIDTH W12-52 48"X48"

PLACE ALONG OUTSIDE AND MEDIAN LANES ON SB GENESEE RD

200' MIN.

GENESEE RD

STH 59

54 56 58 60 62 64 66 68

R/L EB STH 59

ELKHART DR

12' 12'

MATCH LINE 68+50

STA BACK = 66+68.57

STA AHEAD = 67+50.93

1000'

500'

MAX. 10' WIDTH W12-52 48"X48"

1600'

1000'

ROAD WORK AHEAD W20-1A

RIGHT SHOULDER CLOSED AHEAD W21-5B

RIGHT SHOULDER CLOSED W21-5A

500'

STH 59

200' MIN.

MAX. 10' WIDTH W12-52 48"X48"

0.6 MILES AHEAD WO57-52 48"X36"

EAST 59 M3-2 24"X12" M1-6 24"X24"

MAX. 10' WIDTH W12-52 48"X48"

PLACE ALONG OUTSIDE AND MEDIAN LANES ON NB STH 59

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - STH 59 - STAGE 3 | SHEET 62 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026301_S3.DWG
LAYOUT NAME - 01
PLOT DATE : 1/27/2023 1:39 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

- TYPE II / III BARRICADE
- TYPE II / III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL WARNING LIGHTS TYPE A

NOTE:
USE TEMPORARY MARKING LINE REMOVABLE
TAPE 4-INCH OUTSIDE OF PROJECT LIMITS

N

MATCH LINE 68+50

ROAD WORK AHEAD
W20-1A

FOX RIVER PKWY

FOX RIVER

TEMPORARY PAVEMENT MARKING LINE, 4-INCH (WHITE)

100' TYP.

R/L EB STH 59

WO5-52R
12"X36"

10'

70

72

74

76

STH 59

78

80

82

84

100'

500'

50' TYP.

500'

200' TAPER

6:1 MIN. TAPER

500' BUFFER

END ROAD WORK
G20-2A
48"X24"

R11-2L
48" X 30"
LANE CLOSED
TYPE III BARRICADE

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - STH 59 - STAGE 3 | SHEET 63 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026301_S3.DWG
LAYOUT NAME - 02

PLOT DATE : 1/27/2023 1:39 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

GOLDEN LAKE

CTH BB

JEFFERSON COUNTY

WAUKESHA COUNTY

BEGIN PROJECT
STA 72+67

END RESURFACE
BEGIN RECONSTRUCT
STA 203+86

WETLAND LIMITS (TYP)

END RESURFACE
BEGIN RECONSTRUCT
STA 236+81

END RECONSTRUCT
BEGIN RESURFACE
STA 210+17

GRAMLING LANE

BARK RIVER

REMOVE STRUCTURE B-67-0026
B-67-0378

REMOVE STRUCTURE B-67-0025
B-67-0377

PLACE AT
GENESEE
LAKE RD

S DOUSMAN ROAD

END RECONSTRUCT
BEGIN RESURFACE
STA 242+53

S UTICA ROAD

BARK RIVER

E MAIN STREET

WILSON AVE

HISTORICAL
BUILDING

END RECONSTRUCT
BEGIN RESURFACE
STA 294+55

END RESURFACE
BEGIN RECONSTRUCT
STA 288+67

BARK RIVER

REMOVE STRUCTURE B-67-0027
B-67-0379

END PROJECT
STA 297+97

VILLAGE OF SUMMIT
VILLAGE OF DOUSMAN

VILLAGE OF DOUSMAN
VILLAGE OF SUMMIT

N

SCALE = 1 IN: 2000 FT

SEE SDD TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION FOR ADDITIONAL DETAILS

SOUTH GOLDEN LAKE LANE

CTH BB

END ROAD WORK
G20-2A
48"X24"

R11-4
60" X 30"
ROAD CLOSED TO THRU TRAFFIC
TYPE III BARRICADE

SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES FOR ADDITIONAL DETAILS

PLACE AT CTH BB

TEMP CONC BARRIER

BARK RIVER

PLACE AT GRAMLING LANE

PLACE AT CTH Z

SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES FOR ADDITIONAL DETAILS

TEMP CONC BARRIER

PLACE AT GRAMLING LANE

BARK RIVER

S UTICA RD

PLACE AT S DOUSMAN RD

PLACE AT WILSON AVE

PLACE AT MAIN STREET

BARK RIVER

TEMP CONC BARRIER

SEE NEXT SHEET FOR DETAILS

LEGEND

TYPE III BARRICADE WITHOUT/WITH ATTACHED SIGN

SIGN ON PORTABLE OR PERMANENT SUPPORT

TYPE A WARNING LIGHT (FLASHING)

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

WORK AREA

R11-3B
60" X 30"
BRIDGE OUT
XX MILES AHEAD
LOCAL TRAFFIC ONLY
TYPE III BARRICADE

R11-2B
48" X 30"
BRIDGE OUT
TYPE III BARRICADE

ROAD CLOSED 500 FT W20-3D

ROAD CLOSED 1000 FT W20-3C

ROAD WORK AHEAD W20-1A

RUMBLE STRIPS AHEAD W21-6S

ONE LANE ROAD AHEAD W20-4A

W20-7A

SCALE = 1 IN: 1000 FT

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - USH 18 - WITHIN CLOSURE | SHEET 64 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026501-TC-USH 18.DWG
LAYOUT NAME - 01

PLOT DATE : 1/27/2023 1:41 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:2000 FT

2

LEGEND

- TYPE III BARRICADE WITHOUT/WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITHOUT/WITH TYPE C WARNING LIGHT
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- EXISTING SIGN
- TYPE A WARNING LIGHT (FLASHING)
- COVERING EXISTING SIGNS
- WORK AREA

1 R11-3B 60" X 30" — BRIDGE OUT / XX MILES AHEAD / LOCAL TRAFFIC ONLY — TYPE III BARRICADE

2 R11-2L 48" X 30" — LANE CLOSED — TYPE III BARRICADE

3 WO1-6 48" X 24" — TYPE III BARRICADE

END PROJECT
STA 297+97

N

STH 67

25' TYP.

USH 18

299

300

301

302

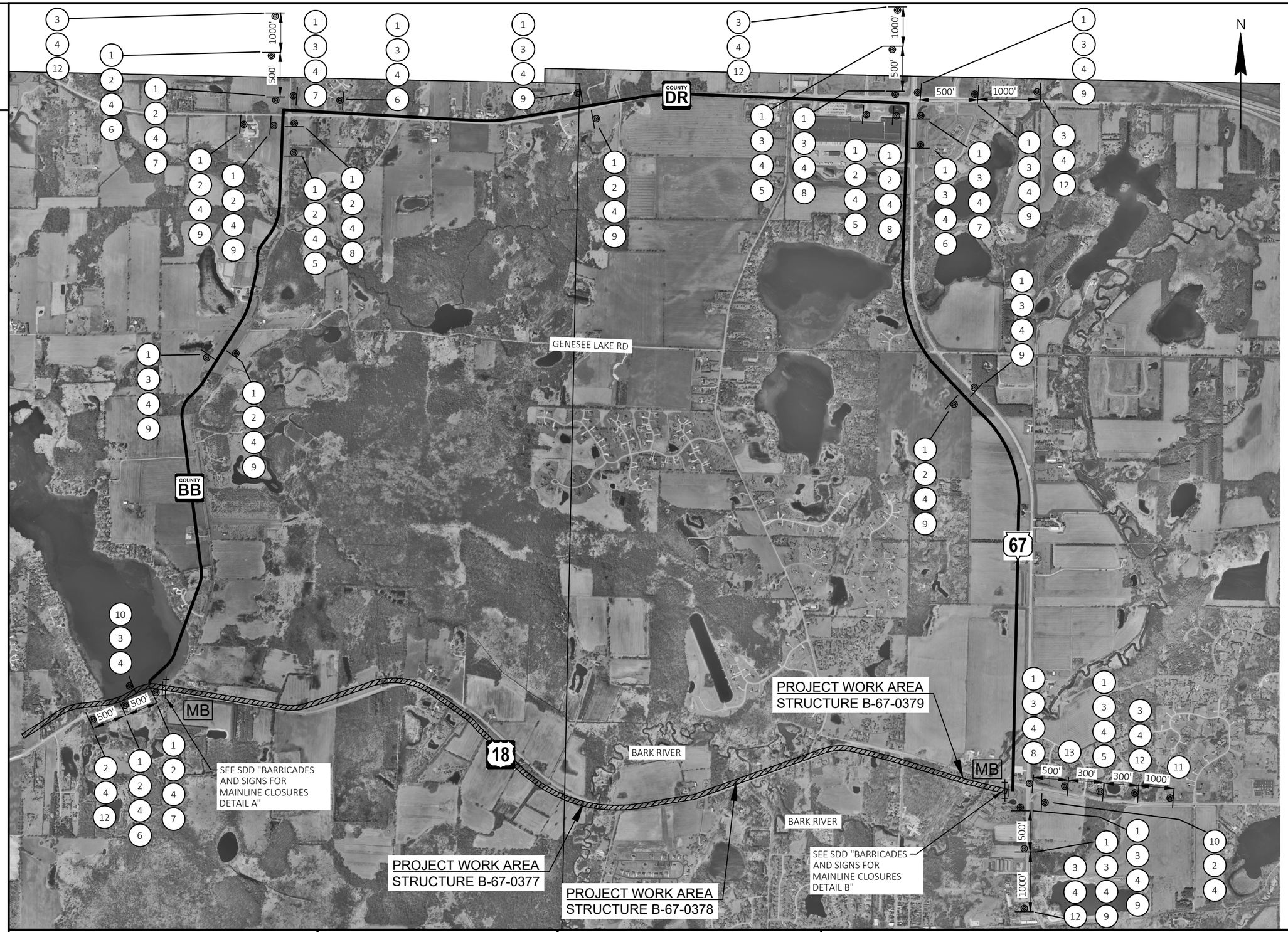
OCONOMOWOC
SULLIVAN
WAUKESHA

DOUSMAN
WAUKESHA
SULLIVAN

SULLIVAN
DOUSMAN
OCONOMOWOC

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | TRAFFIC CONTROL - USH 18 & STH 67 INTERSECTION | SHEET 65 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\026502-TC-USH 18.DWG
LAYOUT NAME - 01
PLOT DATE : 1/27/2023 1:42 PM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:50 FT




LEGEND

- PERMANENT/TEMPORARY SIGN ON POST
- BARRICADE WITHOUT/ WITH SIGN AND TYPE A WARNING LIGHT (FLASHING)
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- WORK AREA
- DETOUR ROUTE

| | | |
|---|---|---|
| 1 | DETOUR M4-8 | |
| 2 | EAST M3-2 | |
| 3 | WEST M3-4 | |
| 4 | 18 M1-4 | |
| 5 | M05-1R | |
| 6 | MO5-1L | |
| 7 | MO6-1 | |
| 8 | MO6-1 | |
| 9 | MO6-1 | |
| 10 | END DETOUR M4-8A | |
| 11 | ROAD CLOSED AHEAD W20-3A | |
| 12 | DETOUR AHEAD W20-2A | |
| 13 | ROAD CLOSED 500 FT W20-3D | |

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | DETOUR ROUTE - USH 18 | SHEET 66 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\027201-DT.DWG
LAYOUT NAME - 01
PLOT DATE : 1/27/2023 1:42 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:2000 FT

2715-03-73

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0002 | 108.4400 | CPM Progress Schedule | EACH | 1.000 | 1.000 |
| 0004 | 201.0105 | Clearing | STA | 13.000 | 13.000 |
| 0006 | 201.0205 | Grubbing | STA | 13.000 | 13.000 |
| 0008 | 203.0211.S | Abatement of Asbestos Containing Material (structure) 01. B-67-0152 | EACH | 1.000 | 1.000 |
| 0010 | 203.0260 | Removing Structure Over Waterway Minimal Debris (structure) 01. B-67-0152 | EACH | 1.000 | 1.000 |
| 0012 | 203.0270 | Removing Structure Over Waterway Debris Capture (structure) 01. B-67-0025 | EACH | 1.000 | 1.000 |
| 0014 | 203.0270 | Removing Structure Over Waterway Debris Capture (structure) 02. B-67-0026 | EACH | 1.000 | 1.000 |
| 0016 | 203.0270 | Removing Structure Over Waterway Debris Capture (structure) 03. B-67-0027 | EACH | 1.000 | 1.000 |
| 0018 | 204.0100 | Removing Concrete Pavement | SY | 8,230.000 | 8,230.000 |
| 0020 | 204.0115 | Removing Asphaltic Surface Butt Joints | SY | 231.000 | 231.000 |
| 0022 | 204.0120 | Removing Asphaltic Surface Milling | SY | 75,780.000 | 75,780.000 |
| 0024 | 204.0150 | Removing Curb & Gutter | LF | 931.000 | 931.000 |
| 0026 | 204.0155 | Removing Concrete Sidewalk | SY | 102.000 | 102.000 |
| 0028 | 204.0165 | Removing Guardrail | LF | 2,700.000 | 2,700.000 |
| 0030 | 204.0215 | Removing Catch Basins | EACH | 1.000 | 1.000 |
| 0032 | 204.0245 | Removing Storm Sewer (size) 01. 12-Inch | LF | 7.000 | 7.000 |
| 0034 | 205.0100 | Excavation Common | CY | 2,790.000 | 2,790.000 |
| 0036 | 206.1001 | Excavation for Structures Bridges (structure) 01. B-67-0377 | EACH | 1.000 | 1.000 |
| 0038 | 206.1001 | Excavation for Structures Bridges (structure) 02. B-67-0378 | EACH | 1.000 | 1.000 |
| 0040 | 206.1001 | Excavation for Structures Bridges (structure) 03. B-67-0379 | EACH | 1.000 | 1.000 |
| 0042 | 206.1001 | Excavation for Structures Bridges (structure) 04. B-67-0152 | EACH | 1.000 | 1.000 |
| 0044 | 208.0100 | Borrow | CY | 762.000 | 762.000 |
| 0046 | 210.1500 | Backfill Structure Type A | TON | 998.000 | 998.000 |
| 0048 | 213.0100 | Finishing Roadway (project) 01. 2715-03-73 | EACH | 1.000 | 1.000 |
| 0050 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 2,177.000 | 2,177.000 |
| 0052 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 11,490.000 | 11,490.000 |
| 0054 | 312.0110 | Select Crushed Material | TON | 28.000 | 28.000 |
| 0056 | 415.0080 | Concrete Pavement 8-Inch | SY | 1,350.000 | 1,350.000 |
| 0058 | 415.0410 | Concrete Pavement Approach Slab | SY | 361.000 | 361.000 |
| 0060 | 416.1010 | Concrete Surface Drains | CY | 4.000 | 4.000 |
| 0062 | 455.0605 | Tack Coat | GAL | 7,481.000 | 7,481.000 |
| 0064 | 460.2000 | Incentive Density HMA Pavement | DOL | 7,450.000 | 7,450.000 |
| 0066 | 460.5223 | HMA Pavement 3 LT 58-28 S | TON | 1,925.000 | 1,925.000 |
| 0068 | 460.5224 | HMA Pavement 4 LT 58-28 S | TON | 9,723.000 | 9,723.000 |
| 0070 | 465.0105 | Asphaltic Surface | TON | 18.000 | 18.000 |
| 0072 | 465.0120 | Asphaltic Surface Driveways and Field Entrances | TON | 58.000 | 58.000 |
| 0074 | 465.0315 | Asphaltic Flumes | SY | 18.000 | 18.000 |
| 0076 | 465.0475 | Asphalt Centerline Rumble Strips 2-Lane Rural | LF | 8,890.000 | 8,890.000 |
| 0078 | 502.0100 | Concrete Masonry Bridges | CY | 1,802.000 | 1,802.000 |
| 0080 | 502.3200 | Protective Surface Treatment | SY | 2,481.000 | 2,481.000 |
| 0082 | 502.3210 | Pigmented Surface Sealer | SY | 637.000 | 637.000 |
| 0084 | 502.4205 | Adhesive Anchors No. 5 Bar | EACH | 223.000 | 223.000 |
| 0086 | 502.4206 | Adhesive Anchors No. 6 Bar | EACH | 344.000 | 344.000 |
| 0088 | 503.0136 | Prestressed Girder Type I 36-Inch | LF | 63.000 | 63.000 |
| 0090 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 23,420.000 | 23,420.000 |
| 0092 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 297,370.000 | 297,370.000 |
| 0094 | 505.0800.S | Bar Steel Reinforcement HS Stainless Structures | LB | 1,390.000 | 1,390.000 |
| 0096 | 506.2605 | Bearing Pads Elastomeric Non-Laminated | EACH | 1.000 | 1.000 |
| 0098 | 506.4000 | Steel Diaphragms (structure) 01. B-67-0152 | EACH | 18.000 | 18.000 |

2715-03-73

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0100 | 509.1500 | Concrete Surface Repair | SF | 20.000 | 20.000 |
| 0102 | 509.9020.S | Epoxy Crack Sealing | LF | 30.000 | 30.000 |
| 0104 | 511.1200 | Temporary Shoring (structure) 01. B-67-0152 | SF | 600.000 | 600.000 |
| 0106 | 512.1000 | Piling Steel Sheet Temporary | SF | 12,850.000 | 12,850.000 |
| 0108 | 516.0500 | Rubberized Membrane Waterproofing | SY | 95.000 | 95.000 |
| 0110 | 520.8000 | Concrete Collars for Pipe | EACH | 2.000 | 2.000 |
| 0112 | 520.8700 | Cleaning Culvert Pipes | EACH | 1.000 | 1.000 |
| 0114 | 521.1012 | Apron Endwalls for Culvert Pipe Steel 12-Inch | EACH | 2.000 | 2.000 |
| 0116 | 522.0418 | Culvert Pipe Reinforced Concrete Class IV 18-Inch | LF | 84.000 | 84.000 |
| 0118 | 522.1018 | Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch | EACH | 1.000 | 1.000 |
| 0120 | 530.0112 | Culvert Pipe Corrugated Polyethylene 12-Inch | LF | 30.000 | 30.000 |
| 0122 | 550.1100 | Piling Steel HP 10-Inch X 42 Lb | LF | 2,160.000 | 2,160.000 |
| 0124 | 550.2106 | Piling CIP Concrete 10 3/4 X 0.365-Inch | LF | 5,835.000 | 5,835.000 |
| 0126 | 601.0409 | Concrete Curb & Gutter 30-Inch Type A | LF | 457.000 | 457.000 |
| 0128 | 601.0415 | Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type J | LF | 935.000 | 935.000 |
| 0130 | 601.0588 | Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT | LF | 215.000 | 215.000 |
| 0132 | 602.0410 | Concrete Sidewalk 5-Inch | SF | 279.000 | 279.000 |
| 0134 | 603.8000 | Concrete Barrier Temporary Precast Delivered | LF | 920.000 | 920.000 |
| 0136 | 603.8125 | Concrete Barrier Temporary Precast Installed | LF | 2,760.000 | 2,760.000 |
| 0138 | 606.0200 | Riprap Medium | CY | 19.000 | 19.000 |
| 0140 | 606.0300 | Riprap Heavy | CY | 494.000 | 494.000 |
| 0142 | 611.0639 | Inlet Covers Type H-S | EACH | 1.000 | 1.000 |
| 0144 | 611.0654 | Inlet Covers Type V | EACH | 2.000 | 2.000 |
| 0146 | 611.1230 | Catch Basins 2x3-FT | EACH | 1.000 | 1.000 |
| 0148 | 611.3220 | Inlets 2x2-FT | EACH | 2.000 | 2.000 |
| 0150 | 611.8105 | Adjusting Catch Basin Covers | EACH | 3.000 | 3.000 |
| 0152 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 610.000 | 610.000 |
| 0154 | 614.0150 | Anchor Assemblies for Steel Plate Beam Guard | EACH | 16.000 | 16.000 |
| 0156 | 614.0395 | Guardrail Mow Strip Concrete | SY | 71.000 | 71.000 |
| 0158 | 614.0397 | Guardrail Mow Strip Emulsified Asphalt | SY | 983.000 | 983.000 |
| 0160 | 614.2300 | MGS Guardrail 3 | LF | 800.000 | 800.000 |
| 0162 | 614.2330 | MGS Guardrail 3 K | LF | 162.500 | 162.500 |
| 0164 | 614.2500 | MGS Thrie Beam Transition | LF | 553.000 | 553.000 |
| 0166 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 14.000 | 14.000 |
| 0168 | 616.0206 | Fence Chain Link 6-FT | LF | 219.000 | 219.000 |
| 0170 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 2715-03-73 | EACH | 1.000 | 1.000 |
| 0172 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0174 | 624.0100 | Water | MGAL | 104.000 | 104.000 |
| 0176 | 625.0100 | Topsoil | SY | 4,775.000 | 4,775.000 |
| 0178 | 627.0200 | Mulching | SY | 4,752.000 | 4,752.000 |
| 0180 | 628.1504 | Silt Fence | LF | 2,092.000 | 2,092.000 |
| 0182 | 628.1520 | Silt Fence Maintenance | LF | 2,092.000 | 2,092.000 |
| 0184 | 628.1530.S | Silt Fence Heavy Duty | LF | 2,369.000 | 2,369.000 |
| 0186 | 628.1535.S | Silt Fence Heavy Duty Maintenance | LF | 2,369.000 | 2,369.000 |
| 0188 | 628.1905 | Mobilizations Erosion Control | EACH | 23.000 | 23.000 |
| 0190 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 14.000 | 14.000 |
| 0192 | 628.2008 | Erosion Mat Urban Class I Type B | SY | 4,328.000 | 4,328.000 |
| 0194 | 628.6505 | Soil Stabilizer Type A | ACRE | 1.300 | 1.300 |
| 0196 | 628.7015 | Inlet Protection Type C | EACH | 5.000 | 5.000 |

2715-03-73

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0198 | 628.7020 | Inlet Protection Type D | EACH | 7.000 | 7.000 |
| 0200 | 628.7504 | Temporary Ditch Checks | LF | 300.000 | 300.000 |
| 0202 | 628.7555 | Culvert Pipe Checks | EACH | 10.000 | 10.000 |
| 0204 | 628.7560 | Tracking Pads | EACH | 9.000 | 9.000 |
| 0206 | 629.0210 | Fertilizer Type B | CWT | 5.000 | 5.000 |
| 0208 | 630.0130 | Seeding Mixture No. 30 | LB | 217.000 | 217.000 |
| 0210 | 630.0200 | Seeding Temporary | LB | 132.000 | 132.000 |
| 0212 | 630.0500 | Seed Water | MGAL | 19.000 | 19.000 |
| 0214 | 631.0300 | Sod Water | MGAL | 3.000 | 3.000 |
| 0216 | 631.1100 | Sod Erosion Control | SY | 25.000 | 25.000 |
| 0218 | 633.5200 | Markers Culvert End | EACH | 1.000 | 1.000 |
| 0220 | 634.0618 | Posts Wood 4x6-Inch X 18-FT | EACH | 42.000 | 42.000 |
| 0222 | 637.2210 | Signs Type II Reflective H | SF | 82.500 | 82.500 |
| 0224 | 637.2230 | Signs Type II Reflective F | SF | 79.000 | 79.000 |
| 0226 | 638.2102 | Moving Signs Type II | EACH | 16.000 | 16.000 |
| 0228 | 638.2602 | Removing Signs Type II | EACH | 21.000 | 21.000 |
| 0230 | 638.3000 | Removing Small Sign Supports | EACH | 36.000 | 36.000 |
| 0232 | 642.5201 | Field Office Type C | EACH | 1.000 | 1.000 |
| 0234 | 643.0300 | Traffic Control Drums | DAY | 39,050.000 | 39,050.000 |
| 0236 | 643.0420 | Traffic Control Barricades Type III | DAY | 11,630.000 | 11,630.000 |
| 0238 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 23,250.000 | 23,250.000 |
| 0240 | 643.0715 | Traffic Control Warning Lights Type C | DAY | 11,690.000 | 11,690.000 |
| 0242 | 643.0800 | Traffic Control Arrow Boards | DAY | 200.000 | 200.000 |
| 0244 | 643.0900 | Traffic Control Signs | DAY | 66,800.000 | 66,800.000 |
| 0246 | 643.0910 | Traffic Control Covering Signs Type I | EACH | 5.000 | 5.000 |
| 0248 | 643.0920 | Traffic Control Covering Signs Type II | EACH | 42.000 | 42.000 |
| 0250 | 643.1050 | Traffic Control Signs PCMS | DAY | 70.000 | 70.000 |
| 0252 | 643.3120 | Temporary Marking Line Epoxy 4-Inch | LF | 1,975.000 | 1,975.000 |
| 0254 | 643.3150 | Temporary Marking Line Removable Tape 4-Inch | LF | 32,070.000 | 32,070.000 |
| 0256 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0258 | 645.0111 | Geotextile Type DF Schedule A | SY | 302.000 | 302.000 |
| 0260 | 645.0120 | Geotextile Type HR | SY | 886.000 | 886.000 |
| 0262 | 646.1020 | Marking Line Epoxy 4-Inch | LF | 47,205.000 | 47,205.000 |
| 0264 | 646.1545 | Marking Line Grooved Wet Ref Contrast Epoxy 4-Inch | LF | 44,102.000 | 44,102.000 |
| 0266 | 646.3545 | Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch | LF | 874.000 | 874.000 |
| 0268 | 646.5020 | Marking Arrow Epoxy | EACH | 6.000 | 6.000 |
| 0270 | 646.5120 | Marking Word Epoxy | EACH | 2.000 | 2.000 |
| 0272 | 646.6120 | Marking Stop Line Epoxy 18-Inch | LF | 206.000 | 206.000 |
| 0274 | 646.7120 | Marking Diagonal Epoxy 12-Inch | LF | 142.000 | 142.000 |
| 0276 | 646.7420 | Marking Crosswalk Epoxy Transverse Line 6-Inch | LF | 144.000 | 144.000 |
| 0278 | 648.0100 | Locating No-Passing Zones | MI | 4.300 | 4.300 |
| 0280 | 650.4000 | Construction Staking Storm Sewer | EACH | 3.000 | 3.000 |
| 0282 | 650.4500 | Construction Staking Subgrade | LF | 2,158.000 | 2,158.000 |
| 0284 | 650.5000 | Construction Staking Base | LF | 1,585.000 | 1,585.000 |
| 0286 | 650.5500 | Construction Staking Curb Gutter and Curb & Gutter | LF | 1,150.000 | 1,150.000 |
| 0288 | 650.6501 | Construction Staking Structure Layout (structure) 01. B-67-0152 | EACH | 1.000 | 1.000 |
| 0290 | 650.6501 | Construction Staking Structure Layout (structure) 02. B-67-0377 | EACH | 1.000 | 1.000 |
| 0292 | 650.6501 | Construction Staking Structure Layout (structure) 03. B-67-0378 | EACH | 1.000 | 1.000 |
| 0294 | 650.6501 | Construction Staking Structure Layout (structure) 04. B-67-0379 | EACH | 1.000 | 1.000 |

2715-03-73

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0296 | 650.7000 | Construction Staking Concrete Pavement | LF | 686.000 | 686.000 |
| 0298 | 650.8000 | Construction Staking Resurfacing Reference | LF | 20,757.000 | 20,757.000 |
| 0300 | 650.9500 | Construction Staking Sidewalk (project) 01. 2715-03-73 | EACH | 1.000 | 1.000 |
| 0302 | 650.9911 | Construction Staking Supplemental Control (project) 01. 2715-03-73 | EACH | 1.000 | 1.000 |
| 0304 | 650.9920 | Construction Staking Slope Stakes | LF | 2,454.000 | 2,454.000 |
| 0306 | 690.0150 | Sawing Asphalt | LF | 304.000 | 304.000 |
| 0308 | 690.0250 | Sawing Concrete | LF | 880.000 | 880.000 |
| 0310 | 715.0502 | Incentive Strength Concrete Structures | DOL | 10,782.000 | 10,782.000 |
| 0312 | 715.0720 | Incentive Compressive Strength Concrete Pavement | DOL | 540.000 | 540.000 |
| 0314 | 740.0440 | Incentive IRI Ride | DOL | 16,670.000 | 16,670.000 |
| 0316 | 999.2000.S | Installing and Maintaining Bird Deterrent System (station) 01. 80+19 | EACH | 1.000 | 1.000 |
| 0318 | 999.2000.S | Installing and Maintaining Bird Deterrent System (station) 02. 239+30 | EACH | 1.000 | 1.000 |
| 0320 | 999.2000.S | Installing and Maintaining Bird Deterrent System (station) 03. 291+63 | EACH | 1.000 | 1.000 |
| 0322 | SPV.0060 | Special 01. Fisheries Consultant (2715-03-73) | EACH | 1.000 | 1.000 |
| 0324 | SPV.0090 | Special 01. Marking Contrast Epoxy 4-Inch | LF | 594.000 | 594.000 |
| 0326 | SPV.0090 | Special 02. Treated Timber Rub Rail | LF | 154.000 | 154.000 |
| 0328 | SPV.0165 | Special 01. Fiber Wrap Reinforced Non-Structural | SF | 55.000 | 55.000 |
| 0330 | SPV.0180 | Special 01. Removing Distressed Pavement Milling | SY | 11,380.000 | 11,380.000 |
| 0332 | SPV.0180 | Special 02. Enhanced Turbidity Barrier | SY | 326.000 | 326.000 |
| 0334 | SPV.0195 | Special 01. Select Crushed Material for Travel Corridor | TON | 89.000 | 89.000 |

3

REMOVAL ITEMS

| CATEGORY | STAGE | ROADWAY | STATION | - | STATION | LOCATION | 201.0105 CLEARING STA | 201.0205 GRUBBING STA | 204.0100 REMOVING CONCRETE PAVEMENT SY | 204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY | 204.0120 REMOVING ASPHALTIC SURFACE MILLING SY | 204.0150 REMOVING CURB & GUTTER LF | 204.0155 REMOVING CONCRETE SIDEWALK SY | 204.0165 REMOVING GUARDRAIL LF | 204.0215 REMOVING CATCH BASINS EACH | 204.0245 REMOVING STORM SEWER (12-INCH) LF | SPV.0180.01 REMOVING DISTRESSED PAVEMENT MILLING SY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | | USH 18 | | | | | | | | | | | | | | | |
| | | | 72+67 | - | 203+86 | RESURFACE | -- | -- | -- | 41 | 44,900 | -- | -- | -- | -- | -- | 6,740 |
| | | | 203+86 | - | 210+17 | RECONSTRUCT | 4 | 4 | 2,280 | -- | -- | -- | -- | 831 | -- | -- | -- |
| | | | 210+17 | - | 236+55 | RESURFACE | -- | -- | -- | 11 | 10,600 | -- | -- | -- | -- | -- | 1,590 |
| | | | 236+55 | | 242+53 | RECONSTRUCT | 4 | 4 | 2,770 | 9 | -- | 242 | -- | 588 | -- | -- | -- |
| | | | 242+53 | - | 288+71 | RESURFACE | -- | -- | -- | 159 | 18,900 | -- | -- | -- | -- | -- | 2,840 |
| | | | 288+71 | - | 295+00 | RECONSTRUCT | 3 | 3 | 1,730 | -- | -- | 169 | -- | 863 | -- | -- | -- |
| | | | 295+00 | - | 297+97 | RESURFACE | -- | -- | -- | 11 | 1,380 | -- | -- | -- | -- | -- | 210 |
| | | | | | | SUBTOTAL | 11 | 11 | 6,780 | 231 | 75,780 | 411 | -- | 2,282 | -- | -- | 11,380 |
| 0010 | | STH 59 | | | | | | | | | | | | | | | |
| | 2 | | 76+84 | - | 82+80 | EASTBOUND | -- | -- | 700 | -- | -- | 357 | 102 | 221 | -- | -- | -- |
| | 3 | | 76+84 | - | 82+80 | EASTBOUND | 2 | 2 | 750 | -- | -- | 163 | -- | 197 | 1 | 7 | -- |
| | | | | | | SUBTOTAL | 2 | 2 | 1,450 | -- | -- | 520 | 102 | 418 | 1 | 7 | -- |
| | | | TOTALS | | | | 13 | 13 | 8,230 | 231 | 75,780 | 931 | 102 | 2,700 | 1 | 7 | 11,380 |

EARTHWORK SUMMARY

| Division | From/To Station | ITEM 205.0100 Common Excavation (1) Cut (2) | Salvaged/Unusable Pavement Material (4) | Available Material (5) | Unexpanded Fill | Expanded Fill (7) Factor 1.25 | Mass Ordinate +/- (8) | ITEM 208.0100 Borrow |
|---|---|---|---|---|---|---|---|---|
| B-67-0152 | 77+06 - 82+80 | 408 | 257 | 151 | 6 | 8 | 144 | 0 |
| B-67-0377 | 203+86 - 210+17 | 898 | 785 | 114 | 263 | 329 | -215 | 215 |
| B-67-0378 | 236+55 - 242+53 | 711 | 696 | 15 | 447 | 559 | -545 | 545 |
| B-67-0379 | 288+71 - 295+00 | 772 | 635 | 138 | 112 | 139 | -2 | 2 |
| Grand Total | | 2,790 | 2,373 | 417 | 828 | 1,035 | -618 | 762 |
| Total Common Exc | | | | | | | | |

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
7) Expanded Fill. Factor = 1.25

Expanded Fill = (Unexpanded Fill - Reduced EBS) * Fill Factor

8) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

3

BASE AGGREGATE ITEMS

| CATEGORY | STAGE | ROADWAY | STATION | TO | STATION | O/S | 305.0110 BASE AGGREGATE DENSE ¾-INCH TON | 305.0120 BASE AGGREGATE DENSE 1¼-INCH TON | 624.0100 WATER MGAL |
|---|---|---|---|---|---|---|---|---|---|
| 0010 | | USH 18 | | | | | | | |
| | | | 72+67 | - | 203+86 | RESURFACE | 971 | -- | -- |
| | | | 203+86 | - | 210+17 | RECONSTRUCT | 208 | 3,000 | 29 |
| | | | 210+17 | - | 236+55 | RESURFACE | 196 | -- | -- |
| | | | 236+55 | | 242+53 | RECONSTRUCT | 197 | 3,470 | 34 |
| | | | 242+53 | - | 288+71 | RESURFACE | 342 | -- | -- |
| | | | 288+71 | - | 295+00 | RECONSTRUCT | 208 | 3,160 | 31 |
| | | | 295+00 | - | 297+97 | RESURFACE | 22 | -- | -- |
| | | | | | | SUBTOTAL | 2,144 | 9,630 | 94 |
| 0010 | | STH 59 | | | | | | | |
| | 2 | | 76+84 | - | 82+80 | EASTBOUND | -- | 465 | 5 |
| | 3 | | 76+84 | - | 82+80 | EASTBOUND | 33 | 421 | 5 |
| | | | | | | SUBTOTAL | 33 | 886 | 10 |
| | | | TOTALS | | | | 2,177 | 10,516 | 104 |

CONCRETE ITEMS

| CATEGORY | STAGE | ROADWAY | STATION | - | STATION | LOCATION | 415.0080 CONCRETE PAVEMENT 8-INCH SY | 415.0410 CONCRETE PAVEMENT APPROACH SLAB SY | 416.1010 CONCRETE SURFACE DRAINS CY | 601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF | 601.0415 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J LF | 601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF | 602.0410 CONCRETE SIDEWALK 5-INCH SF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | | USH 18 | | | | | | | | | | | |
| | | | 203+86 | - | 210+17 | RECONSTRUCT | -- | 80 | 1 | -- | -- | 117 | -- |
| | | | 236+55 | | 242+53 | RECONSTRUCT | -- | 81 | 3 | -- | 795 | 53 | -- |
| | | | 288+71 | - | 295+00 | RECONSTRUCT | -- | 81 | 1 | -- | 140 | 45 | -- |
| | | | | | | SUBTOTAL | -- | 242 | 4 | -- | 935 | 215 | -- |
| 0010 | | STH 59 | | | | | | | | | | | |
| | 2 | | 76+84 | - | 82+80 | EASTBOUND | 710 | 59 | -- | 357 | -- | -- | 279 |
| | 3 | | 76+84 | - | 82+80 | EASTBOUND | 640 | 60 | -- | 100 | -- | -- | -- |
| | | | | | | SUBTOTAL | 1,350 | 119 | -- | 457 | -- | -- | 279 |
| | | | TOTALS | | | | 1,350 | 361 | 4 | 457 | 935 | 215 | 279 |

3

## ASPHALTIC PAVING

| CATEGORY | STAGE | ROADWAY | STATION | TO | STATION | O/S | 455.0605 TACK COAT GAL | 460.5223 HMA PAVEMENT 3 LT 58-28 S TON | 460.5224 HMA PAVEMENT 4 LT 58-28 S TON | 465.0105 ASPHALTIC SURFACE TON | 465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON | 465.0315 ASPHALTIC FLUMES SY | 465.0475 ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | | USH 18 | | | | | | | | | | | |
| | | | 72+67 | - | 203+86 | RESURFACE | 3,170 | -- | 5,250 | 10 | 42 | -- | 8,890 |
| | | | 203+86 | - | 210+17 | RECONSTRUCT | 701 | 581 | 327 | -- | 11 | -- | -- |
| | | | 210+17 | - | 236+55 | RESURFACE | 744 | -- | 1,230 | 3 | -- | -- | -- |
| | | | 236+55 | - | 242+53 | RECONSTRUCT | 778 | 645 | 363 | -- | 5 | 9 | -- |
| | | | 242+53 | - | 288+71 | RESURFACE | 1,330 | -- | 2,200 | 5 | -- | -- | -- |
| | | | 288+71 | - | 295+00 | RECONSTRUCT | 758 | 628 | 353 | -- | -- | 9 | -- |
| | | | 295+00 | - | 297+97 | RESURFACE | 97 | -- | 160 | 1 | -- | -- | -- |
| | | | | | | SUBTOTAL | 7,481 | 1,854 | 9,723 | 18 | 58 | 18 | 8,890 |
| 0010 | | STH 59 | | | | | | | | | | | |
| | 1 | | 77+06 | - | 82+80 | EASTBOUND | -- | -- | -- | -- | -- | -- | -- |
| | 2 | | 77+06 | - | 82+80 | EASTBOUND | -- | -- | -- | -- | -- | -- | -- |
| | 3 | | 76+84 | - | 82+80 | EASTBOUND | -- | 71 | -- | -- | -- | -- | -- |
| | | | | | | SUBTOTAL | -- | 71 | -- | -- | -- | -- | -- |
| | | | TOTALS | | | | 7,481 | 1,925 | 9,723 | 18 | 58 | 18 | 8,890 |

## EROSION CONTROL

| CATEGORY | ROADWAY | STATION | TO | STATION | LOCATION | 512.1000 PILING STEEL SHEET TEMPORARY SF | 606.0200 RIP RAP MEDIUM CY | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF | 628.1530.S SILT FENCE HEAVY DUTY LF | 628.1535.S SILT FENCE HEAVY DUTY MAINTENANCE LF | 628.1905 MOBILIZATIONS EROSION CONTROL EA | 628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EA | 628.7015 INLET PROTECTION TYPE C EA | 628.7020 INLET PROTECTION TYPE D EA | 628.7504 TEMPORARY DITCH CHECKS LF | 628.7555 CULVERT PIPE CHECKS EA | 628.7560 TRACKING PADS EA | 645.0120 GEOTEXTILE TYPE HR SY | SPV.0180.02 ENHANCED TURBIDITY BARRIER SY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | USH 18 | | | | | | | | | | | | | | | | | | | |
| | | 203+86 | - | 210+17 | B-67-0377 | 5,320 | 2 | 130 | 130 | 1,060 | 1,060 | 5 | 3 | -- | -- | 60 | 4 | 2 | 4 | -- |
| | | 236+55 | | 242+53 | B-67-0378 | 4,370 | 7 | 370 | 370 | 704 | 704 | 5 | 3 | 1 | -- | 100 | 2 | 2 | 14 | -- |
| | | 288+71 | - | 295+00 | B-67-0379 | 3,160 | 6 | 800 | 800 | 125 | 125 | 5 | 3 | 1 | 2 | 40 | 2 | 2 | 11 | -- |
| | | | | | SUBTOTAL | 12,850 | 15 | 1,300 | 1,300 | 1,889 | 1,889 | 15 | 9 | 2 | 2 | 200 | 8 | 6 | 29 | -- |
| 0010 | STH 59 | | | | | | | | | | -- | | | | | | | | | |
| | | 76+84 | - | 82+80 | EASTBOUND | -- | -- | 372 | 372 | -- | -- | 3 | 2 | 2 | 3 | -- | -- | 1 | -- | -- |
| | | | | | SUBTOTAL | -- | -- | 372 | 372 | -- | -- | 3 | 2 | 2 | 3 | -- | -- | 1 | -- | -- |
| | UNDISTRIBUTED | | | | | -- | 4 | 420 | 420 | 480 | 480 | 5 | 3 | 1 | 1 | 100 | 2 | 2 | 8 | 326 |
| | TOTALS | | | | | 12,850 | 19 | 2,092 | 2,092 | 2,369 | 2,369 | 23 | 14 | 5 | 7 | 300 | 10 | 9 | 37 | 326 |

## STORM SEWER

| CATEGORY | STAGE | ROADWAY | STRUCTURE NUMBER | STATION | O/S | COVER ELEV | * PIPE TIES REQ'D EACH | 520.8000 CONCRETE COLLAR EACH | 520.8700 CLEANING CULVERT PIPES EACH | 521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH | 522.0418 CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF | 522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH | 530.0112 CULVERT PIPE CORRUGATED POLYETHYLENE 12-INCH LF | % SLOPE | 611.0639 INLET COVERS TYPE H-S EACH | 611.0654 INLET COVERS TYPE V EACH | 611.1230 CATCH BASINS 2X3-FT EACH | 611.3220 INLETS 2X2-FT EACH | 611.8105 ADJUSTING CATCH BASIN COVERS EACH | 633.5200 MARKERS CULVERT END EACH | ** DEPTH FT | FROM STRUCTURE | TO STRUCTURE | INLET ELEV | DISCH ELEV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | | USH 18 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 2.0 | 290+55 | 35' LT | -- | 3 | 1 | 1 | -- | 84 | 1 | -- | 2.02 | -- | -- | -- | -- | -- | 1 | -- | 2.0 | DITCH | 862.78 | 861.08 |
| | | | 3.0 | 292+12 | 24' RT | 864.40 | -- | -- | -- | 1 | -- | -- | 14 | 4.93 | -- | 1 | -- | 1 | -- | -- | 2.50 | 3.0 | DITCH | 861.16 | 860.47 |
| | | | 4.0 | 292+12 | 24' LT | 864.40 | -- | -- | -- | 1 | -- | -- | 16 | 9.69 | -- | 1 | -- | 1 | 1 | -- | 2.50 | 4.0 | DITCH | 861.16 | 859.61 |
| | | | SUBTOTAL | | | | 3 | 1 | 1 | 2 | 84 | 1 | 30 | | -- | 2 | -- | 2 | 1 | 1 | | | | | |
| 0010 | | STH 59 | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | | -- | 78+90 | 19' LT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- |
| | 2 | | -- | 81+63 | 26' LT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- |
| | 3 | | 1.0 | 304+79 | 27.4' LT | 799.48 | -- | 1 | -- | -- | -- | -- | -- | EXISTING | 1 | -- | 1 | -- | -- | -- | 4.76 | 1.0 | EXISTING | 793.48 | EXSITING |
| | | | SUBTOTAL | | | | -- | 1 | -- | -- | -- | -- | -- | | 1 | -- | 1 | -- | 2 | -- | | | | | |
| | | TOTAL | | | | | 3 | 2 | 1 | 2 | 84 | 1 | 30 | | 1 | 2 | 1 | 2 | 3 | 1 | | | | | |

*FOR INFORMATION ONLY

**STRUCTURE DEPTH DOES NOT INCLUDE 6 INCHES OF ADJUSTMENT RINGS

## TRAFFIC CONTROL

| CATEGORY | STAGE | ROADWAY | LOCATION | 603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF | 603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF | 643.0300 DRUMS DAY | 643.0420 BARRICADES TYPE III DAY | 643.0705 WARNING LIGHTS TYPE A DAY | 643.0715 WARNING LIGHTS TYPE C DAY | 643.0800 ARROW BOARDS DAY | 643.0900 SIGNS DAY | 643.0910 COVERING SIGNS TYPE I EACH | 643.0920 COVERING SIGNS TYPE II EACH | FOR INFORMATION ONLY # OF CYCLES FOR COVERING SIGNS EACH | 643.1050 SIGNS PCMS DAY | 643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH LF | 643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 1 | | | | | | | | | | | | | | | | |
| | | USH 18 | MAINLINE | -- | -- | -- | 80 | 160 | -- | -- | 600 | -- | -- | -- | -- | -- | 22,600 |
| | | | B-67-0377 | 100 | 100 | -- | 2,200 | 4,400 | -- | -- | 1,540 | -- | -- | -- | -- | -- | -- |
| | | | B-67-0378 | -- | 100 | -- | 2,200 | 4,400 | -- | -- | 1,540 | -- | -- | -- | -- | -- | -- |
| | | | B-67-0379 | -- | 100 | -- | 2,200 | 4,400 | -- | -- | 1,540 | -- | -- | -- | -- | -- | -- |
| | | | DETOUR | -- | -- | 26,400 | 1,980 | 3,960 | 7,590 | -- | 45,600 | 4 | 33 | 2 | 14 | -- | -- |
| | | | SUBTOTAL | 100 | 300 | 26,400 | 8,660 | 17,320 | 7,590 | -- | 50,820 | 4 | 33 | | 14 | -- | 22,600 |
| 0010 | 1 | | | | | | | | | | | | | | | | |
| | | STH 59 | B-67-0152 | 556 | 556 | 1,960 | 280 | 560 | 770 | 70 | 840 | -- | -- | -- | 14 | 790 | 860 |
| | | | SUBTOTAL | 556 | 556 | 1,960 | 280 | 560 | 770 | 70 | 840 | -- | -- | -- | 14 | 790 | 860 |
| 0010 | 2 | | | | | | | | | | | | | | | | |
| | | STH 59 | B-67-0152 | -- | 556 | 2,100 | 240 | 480 | 660 | 60 | 1,380 | -- | -- | -- | 14 | 790 | 860 |
| | | | SUBTOTAL | -- | 556 | 2,100 | 240 | 480 | 660 | 60 | 1,380 | -- | -- | -- | 14 | 790 | 860 |
| 0010 | 3 | | | | | | | | | | | | | | | | |
| | | STH 59 | B-67-0152 | -- | 556 | 780 | 120 | 240 | 330 | 30 | 360 | -- | -- | -- | 14 | -- | 1,330 |
| | | | SUBTOTAL | -- | 556 | 780 | 120 | 240 | 330 | 30 | 360 | -- | -- | -- | 14 | -- | 1,330 |
| | | UNDISTRIBUTED | | 264 | 792 | 7,810 | 2,330 | 4,650 | 2,340 | 40 | 13,400 | 1 | 9 | -- | 14 | 395 | 6,420 |
| | | TOTAL | | 920 | 2,760 | 39,050 | 11,630 | 23,250 | 11,690 | 200 | 66,800 | 5 | 42 | -- | 70 | 1,975 | 32,070 |

3

GUARDRAIL

| CATEGORY | STAGE | ROADWAY | STATION | | STATION | LOCATION | 614.0395 GUARDRAIL MOW STRIP CONCRETE SY | 614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY | 614.2300 MGS GUARDRAIL 3 LF | 614.2330 MGS GUARDRAIL 3 K LF | 614.2500 MGS THRIE BEAM TRANSITION LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH | SPV.0090.02 TREATED TIMBER RUB RAIL LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | | USH 18 | | | | | | | | | | | |
| | | | 203+86 | - | 210+17 | B-67-0377 | -- | 333 | 300 | -- | 158 | 4 | -- |
| | | | 236+55 | | 242+53 | B-67-0378 | -- | 257 | 87.5 | 62.5 | 158 | 4 | -- |
| | | | 288+71 | - | 295+00 | B-67-0379 | -- | 315 | 200 | 100 | 158 | 4 | -- |
| | | | | | | SUBTOTAL | -- | 905 | 587.5 | 162.5 | 474 | 12 | -- |
| 0010 | | STH 59 | | | | | | | | | | | |
| | 2 | | 76+84 | - | 82+80 | EASTBOUND | 71 | -- | 150 | -- | 39.5 | 1 | -- |
| | 3 | | 76+84 | - | 82+80 | EASTBOUND | -- | 78 | 62.5 | -- | 39.5 | 1 | 154 |
| | | | | | | SUBTOTAL | 71 | 78 | 212.5 | -- | 79 | 2 | 154 |
| | | | TOTALS | | | | 71 | 983 | 800 | 162.5 | 553 | 14 | 154 |

RESTORATION

| CATEGORY | STAGE | ROADWAY | STATION | TO | STATION | O/S | 625.0100 TOPSOIL SY | 627.0200 MULCHING SY | 628.2008 EROSION MAT URBAN CLASS I TYPE B SY | 628.6505 SOIL STABILIZER TYPE A ACRE | 629.0210 FERTILIZER TYPE B CWT | 630.0130 SEEDING MIXTURE NO. 30 LB | 630.0200 SEEDING TEMPORARY LB | 630.0500 SEED WATER MGAL | 631.0300 SOD WATER MGAL | 631.1100 SOD EROSION CONTROL SY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | | USH 18 | | | | | | | | | | | | | | |
| | | | 203+86 | - | 210+17 | B-67-0377 | 1,460 | 1,460 | 1,460 | 0.3 | 1 | 66 | 40 | 5 | -- | -- |
| | | | 236+55 | | 242+53 | B-67-0378 | 1,180 | 1,170 | 1,180 | 0.3 | 1 | 53 | 32 | 4 | 1 | 10 |
| | | | 288+71 | - | 295+00 | B-67-0379 | 822 | 813 | 822 | 0.2 | 1 | 37 | 22 | 3 | 1 | 10 |
| | | | | | | SUBTOTAL | 3,462 | 3,443 | 3,462 | 0.8 | 3 | 156 | 94 | 12 | 2 | 20 |
| 0010 | | STH 59 | | | | | | | | | | | | | | |
| | 2 | | 76+84 | - | 82+80 | EASTBOUND | 12 | 12 | -- | 0.1 | -- | 1 | 1 | 1 | -- | -- |
| | 3 | | 76+84 | - | 82+80 | EASTBOUND | 346 | 346 | -- | 0.1 | 1 | 16 | 10 | 2 | -- | -- |
| | | | | | | SUBTOTAL | 358 | 358 | -- | 0.2 | 1 | 17 | 11 | 3 | -- | -- |
| | | UNDISTRIBUTED CATEGORY 0010 | | | | | 955 | 951 | 866 | 0.3 | 1 | 44 | 27 | 4 | 1 | 5 |
| | | TOTALS | | | | | 4,775 | 4,752 | 4,328 | 1.3 | 5 | 217 | 132 | 19 | 3 | 25 |

TYPE II PERMANENT SIGNING - 2715-03-73

| SIGN NO. | SIGN CODE & SIZE | SIGN MESSAGE | TYPE II SIGN SIZE W [IN.] | x | H [IN.] | 637.2210 SIGNS TYPE II REFLC H [SF] | 637.2230 SIGNS TYPE II REFLC F [SF] | 638.2602 REMOVING SIGNS TYPE II [EA] | 638.3000 REMOVING SMALL SIGN SUPPORTS [EA] | 634.0618 POSTS WOOD 4"X 6"X18' [EA] | 638.2102 MOVING SIGNS TYPE II [EA] | MOUNT ON SAME POST AS SIGN # | REMARKS / NEW SIGN LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | W5-52L(3) | | 18 | X | 54 | | 6.750 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 2 | W5-52R(3) | | 18 | X | 54 | | 6.750 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 3 | R3-20L(3) | | 36 | X | 54 | 13.500 | | 1 | 1 | 1 | | | |
| 4 | R7-1L(3) | | 24 | X | 30 | 5.000 | | 1 | 1 | 1 | | | |
| 5 | R7-1R(3) | | 24 | X | 30 | 5.000 | | 1 | 1 | 1 | | | |
| 6 | R2-1(3) | 45 MPH | 36 | X | 48 | 12.000 | | 1 | 1 | 1 | | | |
| 7 | R2-1(3) | 45 MPH | 36 | X | 48 | 12.000 | | 1 | 1 | 1 | | | |
| 8 | W5-52R(3) | | 18 | X | 54 | | 6.750 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 9 | W5-52RL(3) | | 18 | X | 54 | | 6.750 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 10 | W5-52R(2S) | | 12 | X | 36 | | 3.000 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 11 | I3-1 | ROOT RIVER | | | | | | | 1 | 1 | 1 | | |
| 12 | W5-52L(2S) | | 12 | X | 36 | | 3.000 | | | 1 | | | 4 FOOT HEIGHT |
| 13 | W5-52R(2S) | | 12 | X | 36 | | 3.000 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 14 | I3-1 | ROOT RIVER | | | | | | | 1 | 1 | 1 | | |
| 15 | W5-52L(2S) | | 12 | X | 36 | | 3.000 | | | 1 | | | 4 FOOT HEIGHT |
| 16 | W14-3(2S) | | 48 | X | 36 | | 6.000 | 1 | 1 | 1 | | | |
| 17 | R2-1(2S) | 45 MPH | 24 | X | 30 | 5.000 | | 1 | 1 | 1 | | | |
| 18 | W5-52R(2S) | | 12 | X | 36 | | 3.000 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 19 | I3-1 | ROOT RIVER | | | | | | | 1 | 1 | 1 | | |
| 20 | W5-52L(2S) | | 12 | X | 36 | | 3.000 | | | 1 | | | 4 FOOT HEIGHT |
| 21 | W5-52R(2S) | | 12 | X | 36 | | 3.000 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 22 | I3-1 | ROOT RIVER | | | | | | | 1 | 1 | 1 | | |
| 23 | W5-52L(2S) | | 12 | X | 36 | | 3.000 | | | 1 | | | 4 FOOT HEIGHT |
| 24 | R2-1(2S) | 45 MPH | 24 | X | 30 | 5.000 | | 1 | 1 | 1 | | | |
| 25 | NONE | HISTORICAL MARKER (ARROW) | | | | | | | 1 | 1 | 1 | | |
| 26 | W5-52R(2S) | | 12 | X | 36 | | 3.000 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 27 | W5-52L(2S) | | 12 | X | 36 | | 3.000 | | | 1 | | | 4 FOOT HEIGHT |
| 28 | W3-3 | | | | | | | | 1 | 1 | 1 | | |
| 29 | J2-3 | | | | | | | | 2 | 2 | 1 | | |
| 29A | J2-1 | | | | | | | | 1 | 1 | 1 | | ALTERNATE 94 SIGN |
| 30 | R3-8LF | | | | | | | | 1 | 1 | 1 | | |
| 31 | R2-1(2S) | 45 MPH | 24 | X | 30 | 5.000 | | 1 | 1 | 1 | | | |
| 32 | J3-1 | | | | | | | | 1 | 1 | 1 | | |
| 33 | W5-52R(2S) | | 12 | X | 36 | | 3.000 | 1 | 1 | 1 | | | 4 FOOT HEIGHT |
| 34 | W5-52L(2S) | | 12 | X | 36 | | 3.000 | | | 1 | | | 4 FOOT HEIGHT |
| 35 | W11-2 | | | | | | | | 1 | 1 | 1 | | INCLUDES THE W13-1 |
| | W14-3 UNDISTRIBUTED | | | | | | | | 3 | 3 | 3 | | MOVE NO PASSING PENNANTS AS NECESSARY |
| | UNDISTRIBUTED | | | | | 20.000 | 10.000 | 2 | 2 | 2 | 2 | | |
| | | | | | | | | | | | | | |
| | TOTALS | | | | | 82.500 | 79.000 | 21 | 36 | 42 | 16 | | |

SHEET 1 OF 1

| PROJECT NO: 2715-03-73 | HWY: STH 59 AND USH 18 | COUNTY: WAUKESHA | MISCELLANEOUS QUANTITIES | SHEET: | E |
|---|---|---|---|---|---|

3

## PAVEMENT MARKING

| CATEGORY | STAGE | ROADWAY | STATION | TO | STATION | LOCATION | 646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF | 646.1020 MARKING LINE EPOXY 4-INCH WHITE LF | 646.1545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH WHITE LF | 646.3545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH LF | 646.5020 MARKING ARROW EPOXY TYPE 2 EA | 646.5120 MARKING WORD EPOXY EA | 646.6120 MARKING STOP LINE EPOXY 18-INCH LF | 646.7120 MARKING DIAGONAL EPOXY 12-INCH LF | 646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF | 648.0100 LOCATING NO-PASSING ZONES MI | SPV.0090.01 MARKING CONTRAST EPOXY 4-INCH LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | | USH 18 | | | | | | | | | | | | | | | |
| | | | 72+67 | - | 297+97 | MAINLINE | 46,000 | -- | 44,000 | 765 | 6 | 2 | 206 | 142 | 144 | 4.3 | 546 |
| | | | | | | SUBTOTAL | 46,000 | | 44,000 | 765 | 6 | 2 | 206 | 142 | 144 | 4.3 | 546 |
| 0010 | | STH 59 | | | | | | | | | | | | | | | |
| | 2 | | 76+84 | - | 82+80 | MAINLINE | 607 | -- | -- | 109 | -- | -- | -- | -- | -- | -- | -- |
| | 3 | | 76+84 | - | 82+80 | MAINLINE | -- | 598 | 102 | -- | -- | -- | -- | -- | -- | -- | 48 |
| | | | | | | SUBTOTAL | 1,205 | | 102 | 109 | -- | -- | -- | -- | -- | -- | 48 |
| | | TOTALS | | | | | 47,205 | | 44,102 | 874 | 6 | 2 | 206 | 142 | 144 | 4.3 | 594 |

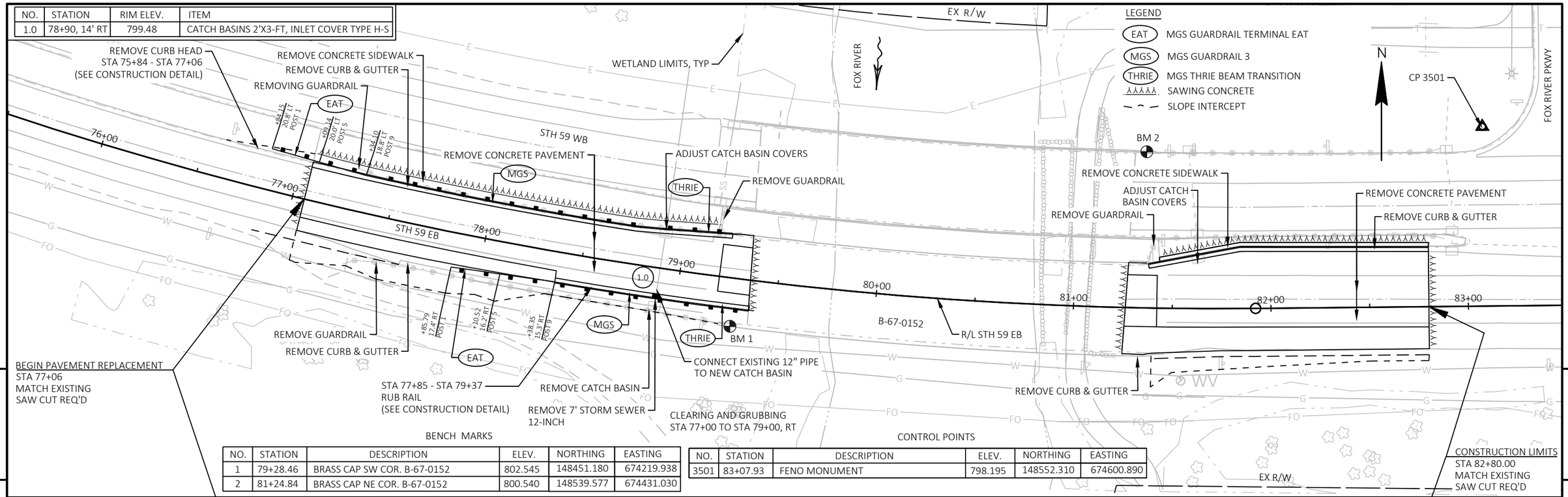
## CONSTRUCTION STAKING

| CATEGORY | ROADWAY | STATION | - | STATION | LOCATION | 650.4000 CONSTRUCTION STAKING STORM SEWER EACH | 650.4500 CONSTRUCTION STAKING SUBGRADE LF | 650.5000 CONSTRUCTION STAKING BASE LF | 650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF | 650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH | 650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF | 650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF | 650.9920 CONSTRUCTION STAKING SLOPE STAKES LF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | USH 18 | | | | | | | | | | | | |
| | | 72+67 | - | 203+86 | RESURFACE | -- | -- | -- | -- | -- | -- | 13,200 | -- |
| | | 203+86 | - | 210+17 | RECONSTRUCT | -- | 539 | 540 | 117 | -- | 30 | -- | 631 |
| | | 210+17 | - | 236+55 | RESURFACE | -- | -- | -- | -- | -- | -- | 2,640 | -- |
| | | 236+55 | - | 242+53 | RECONSTRUCT | -- | 507 | 507 | 848 | -- | 30 | -- | 598 |
| | | 242+53 | - | 288+71 | RESURFACE | -- | -- | -- | -- | -- | -- | 4,620 | -- |
| | | 288+71 | - | 295+00 | RECONSTRUCT | 2 | 538 | 538 | 185 | 1 | 30 | -- | 629 |
| | | 295+00 | - | 297+97 | RESURFACE | -- | -- | -- | -- | -- | -- | 297 | -- |
| | | | | | SUBTOTAL | 2 | 1,584 | 1,585 | 1,150 | 1 | 90 | 20,757 | 1,858 |
| 0010 | STH 59 | | | | | | | | | | | | |
| | | 76+84 | - | 82+80 | EASTBOUND | 1 | 574 | -- | -- | -- | 596 | -- | 596 |
| | | | | | SUBTOTAL | 1 | 574 | -- | -- | -- | 596 | -- | 596 |
| | | TOTALS | | | | 3 | 2,158 | 1,585 | 1,150 | 1 | 686 | 20,757 | 2,454 |

## SAWING EXISTING PAVEMENT

| CATEGORY | STAGE | ROADWAY | STATION | - | STATION | LOCATION | 690.0150 ASPHALT LF | 690.0250 CONCRETE LF |
|---|---|---|---|---|---|---|---|---|
| 0010 | | USH 18 | | | | | | |
| | | | 203+86 | - | 210+17 | B-67-0377 | 81 | 81 |
| | | | 236+55 | - | 242+53 | B-67-0378 | 111 | 111 |
| | | | 288+71 | - | 295+00 | B-67-0379 | 69 | 69 |
| | | | | | | SUBTOTAL | 261 | 261 |
| 0010 | | STH 59 | | | | | | |
| | 2 | | 76+84 | - | 82+80 | EASTBOUND | -- | 556 |
| | 3 | | 76+84 | - | 82+80 | EASTBOUND | 43 | 63 |
| | | | | | | SUBTOTAL | 43 | 619 |
| | | | TOTALS | | | | 304 | 880 |

| NO. | STATION | RIM ELEV. | ITEM |
|---|---|---|---|
| 1.0 | 78+90, 14' RT | 799.48 | CATCH BASINS 2'X3-FT, INLET COVER TYPE H-S |

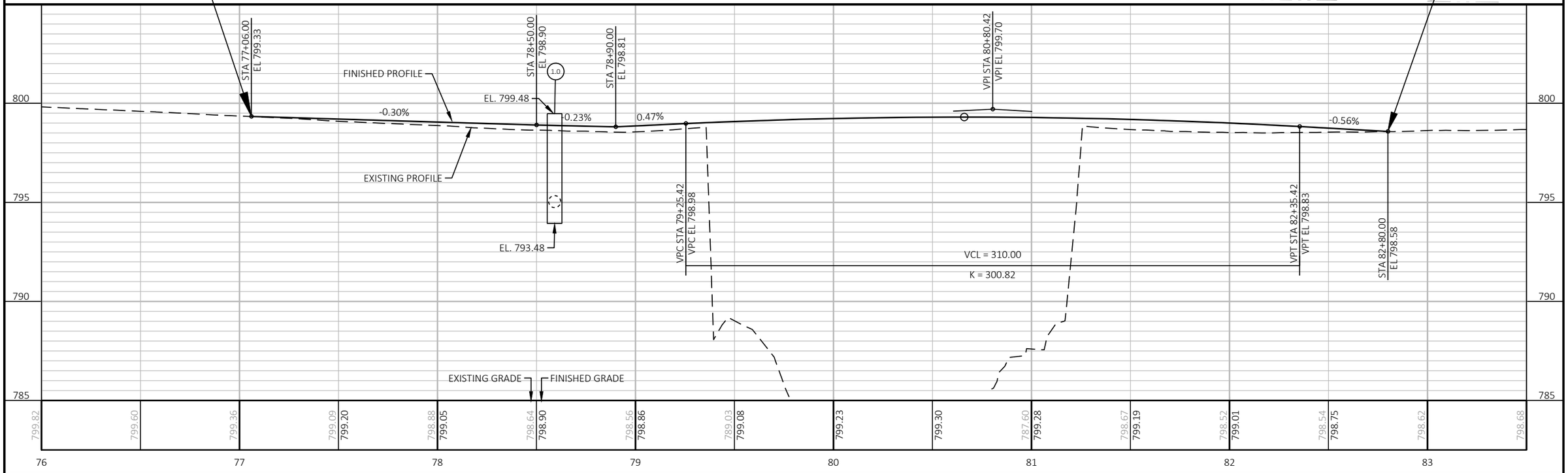



BENCH MARKS

| NO. | STATION | DESCRIPTION | ELEV. | NORTHING | EASTING |
|---|---|---|---|---|---|
| 1 | 79+28.46 | BRASS CAP SW COR. B-67-0152 | 802.545 | 148451.180 | 674219.938 |
| 2 | 81+24.84 | BRASS CAP NE COR. B-67-0152 | 800.540 | 148539.577 | 674431.030 |

CONTROL POINTS

| NO. | STATION | DESCRIPTION | ELEV. | NORTHING | EASTING |
|---|---|---|---|---|---|
| 3501 | 83+07.93 | FENO MONUMENT | 798.195 | 148552.310 | 674600.890 |




| PROJECT NO: 2715-03-73 | HWY: STH 59 | COUNTY: WAUKESHA | PLAN AND PROFILE: STH 59 (B-67-0152) | SHEET 78 | E |
|---|---|---|---|---|---|


FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\050101-PP-STH 59.DWG
LAYOUT NAME - 01
PLOT DATE : 3/21/2023 11:22 AM
PLOT BY : TOM ORNER
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

| BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | ELEV | DESCRIPTION | Y | X |
| BM 407 | 206+47.10 | 21.05 RT | 855.63 | CHSLED SQUARE SW WING WALL | 164803.60 | 612477.78 |

LEGEND

- 3K — MGS GUARDRAIL 3K
- ADJ — ADJUSTING CATCH BASIN COVER
- EAT — MGS GUARDRAIL TERMINAL EAT
- MGS — MGS GUARDRAIL 3
- MOWA — MOW STRIP EMULSIFIED ASPHALT
- REMCP — REMOVING CONCRETE PAVEMENT
- REMGR — REMOVING GUARDRAIL
- THRIE — MGS THRIE BEAM TRANSITION
- REMCG — REMOVING CURB AND GUTTER
- YYYYY — SAWING CONCRETE
- SLOPE INTERCEPT

CLEARING AND GRUBBING
STA 204+00 TO STA 206+00, LT & RT
STA 207+00 TO STA 209+00, LT & RT

DANIEL F AND SHARON L NETTESHEIM LIVING TRUST

CAROL BURGESS

BARK RIVER

WETLANDS LIMITS, TYP

EX R/W

203+00 204+00 205+00 206+00 207+00 208+00 209+00 210+00

B-67-0377

BM 407

INL

USH 18

R/L USH 18

CULVERT TO REMAIN

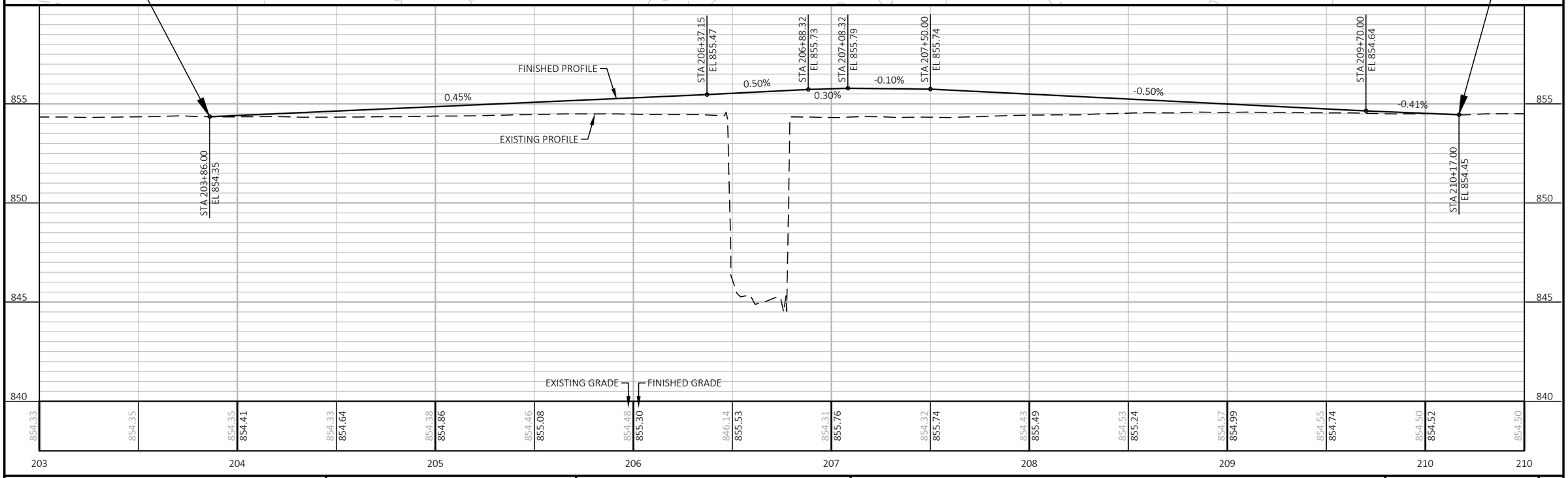
16'

ASPH

STA 203+86
END RESURFACE
BEGIN RECONSTRUCT
SAWING CONCRETE

STA 210+17
END RECONSTRUCT
BEGIN RESURFACE
SAWING CONCRETE

STATE OF WISCONSIN AND
DEPARTMENT OF NATURAL RESOURCES




| PROJECT NO: 2715-03-73 | HWY: USH 18 | COUNTY: WAUKESHA | PLAN AND PROFILE: USH 18 (B-67-0377) | SHEET 79 | E |
|---|---|---|---|---|---|


FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\050101-PP-USH 18.DWG
LAYOUT NAME - 01
PLOT DATE : 1/31/2023 8:42 AM
PLOT BY : JESSICA LEWIS, PE
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

| BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | ELEV | DESCRIPTION | Y | X |
| BM 409 | 239+17.50 | 19.76 RT | 857.50 | CHSLED SQUARE SW WING WALL | 165294.61 | 615677.35 |

LEGEND

- 3K — MGS GUARDRAIL 3K
- ADJ — ADJUSTING CATCH BASIN COVER
- EAT — MGS GUARDRAIL TERMINAL EAT
- MGS — MGS GUARDRAIL 3
- MOWA — MOW STRIP EMULSIFIED ASPHALT
- REMCP — REMOVING CONCRETE PAVEMENT
- REMGR — REMOVING GUARDRAIL
- THRIE — MGS THRIE BEAM TRANSITION
- REMCG — REMOVING CURB AND GUTTER
- YYYYY — SAWING CONCRETE
- SLOPE INTERCEPT

DOUGLAS THEINE
TIMOTHY BOHLMAN
CORI THEINE
WETLAND LIMITS, TYP.
EX R/W
CULVERT TO REMAIN
USH 18
R/L USH 18
B-67-0378
BM 409
BARK RIVER
S. UTICA RD
CAUTION
CAUTION
CLEARING AND GRUBBING
STA 238+00 TO STA 239+00, RT
STA 240+00 TO STA 242+00, LT & RT
STATE OF WISCONSIN AND DEPARTMENT OF TRANSPORTATION
THOMAS KRALOVETZ AND SARAH C KRALOVETZ
NANCY L JONES AND BEVERLY LEGG
RENEE J VERG-HONG

STA 236+55.00
END RESURFACE
BEGIN RECONSTRUCT
SAWING CONCRETE

STA 242+53
END RECONSTRUCT
BEGIN RESURFACE
SAWING CONCRETE

VCL = 150.00
K = 152.27
VPC STA 237+18.00
VPC EL 858.12
VPT STA 238+68.00
VPT EL 858.62
VPI STA 239+68.00
VPI EL 859.45
VCL = 190.00
K = 108.34
VPC STA 240+48.00
VPC EL 858.63
VPT STA 242+38.00
VPT EL 858.36
FINISHED PROFILE
EXISTING PROFILE
-0.37%
-0.16%
0.83%
0.73%
STA 236+55.00
EL 858.28
STA 236+82.98
EL 858.17
VPI STA 237+93.00
VPI EL 858.00
VPC STA 238+88.00
VPC EL 858.79
VCL = 160.00
K = 86.52
VPC STA 240+48.00
VPC EL 858.63
VPI STA 241+43.00
VPI EL 857.66
STA 242+53.00
EL 858.47
EXISTING GRADE
FINISHED GRADE

| | | | | | |

| BENCHMARK TABLE | | | | | | |
|---|---|---|---|---|---|---|
| POINT | STATION | OFFSET | ELEV | DESCRIPTION | Y | X |
| BM 414 | 291+48.20 | 19.64 RT | 864.38 | CHSLD SQUARE SW WING WALL | 165352.02 | 620671.32 |

THREE PILLARS DEVELOPMENT LLC

84' - 18-INCH RCCP CL IV
1 - 18-INCH AEW RCCP
1 - MARKERS CULVERT END
CLEAN CULVERT PIPE

USE 18-INCH BLOCK AT POST 4 OF EAT

CONNECT TO EXISTING PIPE

1 - AEW 12-INCH
+11.88, 40.9', LT
IE. 859.61

BARK RIVER

CLEARING AND GRUBBING
STA 290+00 TO STA 291+00, LT & RT
STA 292+00 TO STA 293+00, LT & RT

4.0 292+12, 24' LT
INLET 2x2 ET, COVER TYPE V

WETLANDS LIMITS, TYP

ST MARYS EPISCOPAL CHURCH LIMITED

N

EX R/W

USH 18

B-67-0379

BM 414

R/L USH 18

GRAND LODGE FREE & ACCEPTED MASONS & MASONIC HOME

1 - AEW 12-INCH
+11.89, 38.9', RT
IE. 860.16

3.0 292+12, 24' RT
INLET 2x2 ET, COVER TYPE V

GRAND LODGE FREE & ACCEPTED MASONS & MASONIC HOME

CAUTION

| DRAINAGE TABLE | | | |
|---|---|---|---|
| STRUCTURE | COVER ELEV. | PIPE INFORMATION | IE |
| 3.0 | 864.40 | 14' - 12-INCH @ 7.14% | 861.16 |
| 4.0 | 864.40 | 16' - 12-INCH @ 9.69% | 861.16 |

LEGEND

- 3K — MGS GUARDRAIL 3K
- ADJ — ADJUSTING CATCH BASIN COVER
- EAT — MGS GUARDRAIL TERMINAL EAT
- MGS — MGS GUARDRAIL 3
- MOWA — MOW STRIP EMULSIFIED ASPHALT
- REMCP — REMOVING CONCRETE PAVEMENT
- REMGR — REMOVING GUARDRAIL
- THRIE — MGS THRIE BEAM TRANSITION
- REMCG — REMOVING CURB AND GUTTER
- YYYYY — SAWING CONCRETE
- SLOPE INTERCEPT

288+71
END RESURFACE
BEGIN RECONSTRUCT
SAWING CONCRETE

CONSTRUCTION LIMITS
STA 295+00
END RECONSTRUCT
BEGIN RESURFACE
SAWING CONCRETE

VCL = 150.00
K = 98.00

VCL = 350.00
K = 106.24

VPC STA 289+25.00
VPC EL 868.16

VPT STA 290+75.00
VPT EL 865.69

VPC STA 291+15.00
VPC EL 865.34

VPT STA 294+65.00
VPT EL 868.03

STA 295+00.00
EL 868.87

-2.98%
-2.41%
-0.88%
2.42%

STA 288+71.00
EL 869.63

STA 289+00.00
EL 868.76

18" SS @ 2.67%

RCCP CLASS IV 18-INCH
@ 2.02%

862.78

861.08

CONCRETE COLLAR

VPI STA 290+00.00
VPI EL 866.35

VPT STA 290+75.00
VPT EL 865.69

FINISHED PROFILE

EXISTING PROFILE

VPI STA 292+90.00
VPI EL 863.80

VPT STA 294+65.00
VPT EL 868.03

EXISTING GRADE
FINISHED GRADE

| | | | | | |

# Standard Detail Drawing List

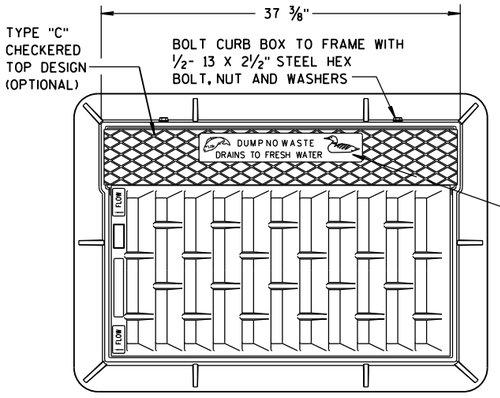
| | |
|---|---|
| 08A05-19A | INLET COVERS TYPE A, H, A-S, H-S & Z |
| 08A05-19C | INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S |
| 08A09-02 | CATCH BASINS 2X3-FT AND 2.5X3-FT |
| 08C07-02 | INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT |
| 08D01-22A | CONCRETE CURB & GUTTER |
| 08D01-22B | CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS |
| 08D02-07A | CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES |
| 08D02-07B | CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES |
| 08D02-07C | CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES |
| 08D03-08A | CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES |
| 08D03-08B | CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES |
| 08D04-06 | CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES |
| 08D21-01 | DRIVEWAYS WITHOUT CURB & GUTTER |
| 08D22-01 | DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL |
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08E10-02 | INLET PROTECTION TYPE A, B, C AND D |
| 08E14-01 | TRACKING PAD |
| 08E15-01 | CULVERT PIPE CHECK |
| 08F01-11 | APRON ENDWALLS FOR CULVERT PIPE |
| 08F04-08 | JOINT TIES FOR CONCRETE PIPE  AND CONCRETE COLLAR DETAIL |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 13A03-06 | CONCRETE PAVEMENT SHOULDERS |
| 13A11-03A | 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING |
| 13A11-03B | 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING |
| 13B02-09A | CONCRETE PAVEMENT APPROACH SLAB |
| 13B02-09B | STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB |
| 13C01-19 | CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES |
| 13C13-10 | URBAN DOWELED CONCRETE PAVEMENT |
| 13C18-07A | CONCRETE PAVEMENT JOINTING |
| 13C18-07B | CONCRETE PAVEMENT STEEL REINFORCEMENT |
| 13C18-07C | CONCRETE PAVEMENT JOINT TYPES |
| 13C18-07D | CONCRETE PAVEMENT JOINT TYPES AT UTILITY FIXTURES |
| 13C19-03 | HMA LONGITUDINAL JOINTS |
| 14B07-16A | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16B | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16C | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16D | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16E | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16F | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16G | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16H | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16I | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16J | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16K | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16L | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16M | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-16N | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B08-02A | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02B | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02C | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02D | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02E | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B28-04A | GUARDRAIL MOW STRIP |
| 14B28-04B | GUARDRAIL MOW STRIP |
| 14B42-07A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-07B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-07C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-07D | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B44-04A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B45-05A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05D | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05E | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |

6

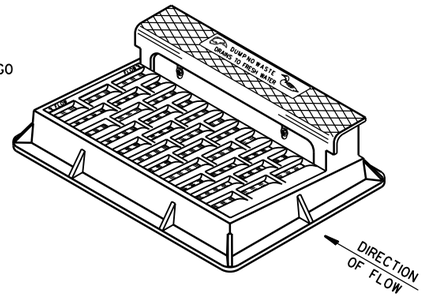
# Standard Detail Drawing List

| | |
|---|---|
| 14B45-05F | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05G | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05H | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05I | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05J | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05K | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05L | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END |
| 15C02-08A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-08B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES |
| 15C02-08C | DETOUR SIGNING FOR MAINLINE CLOSURES |
| 15C02-08F | ADVANCED WIDTH RESTRICTION SIGNING |
| 15C03-05 | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES |
| 15C04-05 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C07-15B | PAVEMENT MARKING WORDS |
| 15C07-15C | PAVEMENT MARKING ARROWS |
| 15C08-22A | LONGITUDINAL MARKING (MAINLINE) |
| 15C08-22B | TEMPORARY LONGITUDINAL PAVEMENT MARKING |
| 15C08-22C | PAVEMENT MARKING (TURN LANES) |
| 15C08-22D | PAVEMENT MARKING (TURN LANES) |
| 15C11-10B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |
| 15C12-09A | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION |
| 15C12-09B | TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE |
| 15C18-07A | MEDIAN ISLAND MARKING PAVEMENT MARKINGS |
| 15C35-05B | PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE) |
| 15C35-05C | PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE) |
| 15D12-10A | TRAFFIC CONTROL, LANE CLOSURE |
| 15D44-02 | TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES |
| 15D47-02A | TRAFFIC CONTROL, INGRESS/EGRESS WITH BARRIER |

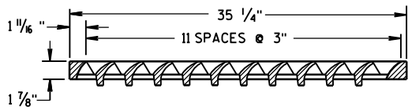

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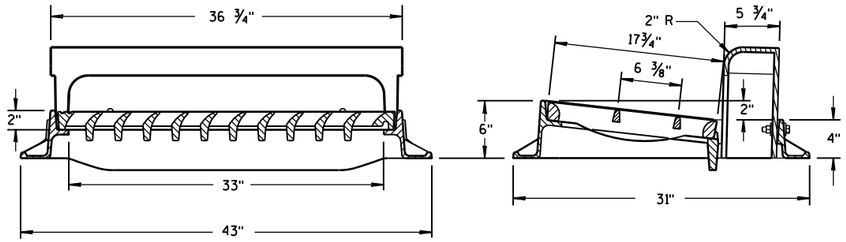


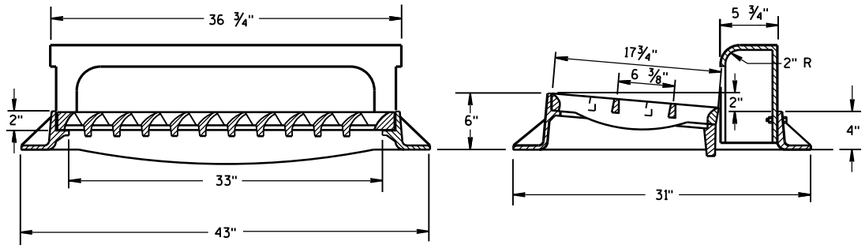

**NOTE:**
**GRATE IS REVERSIBLE.**




NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

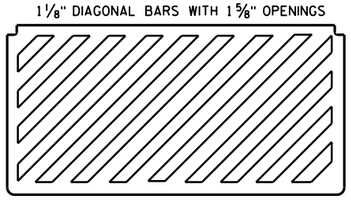



## TYPE "H"

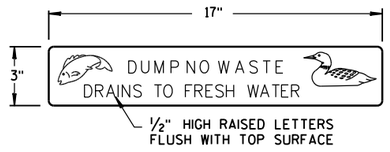
**NOTE: EITHER CASTING IS ACCEPTABLE**



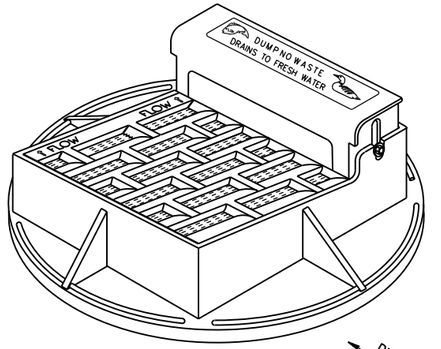

**SPECIAL GRATE FOR TYPE "H" COVER**

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

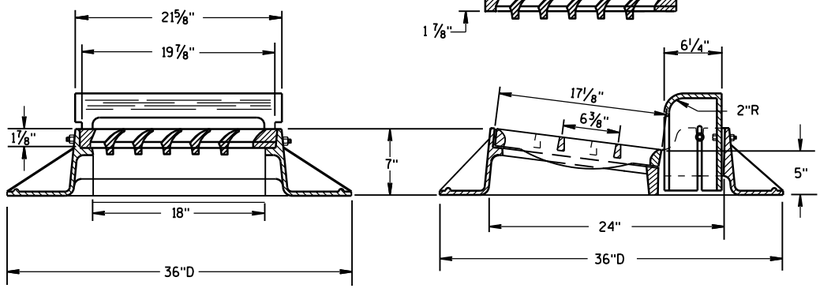



**LOGO DETAIL**




NOTE: CURB BOX ADJUSTABLE 4" TO 9"

**NOTE:**
**GRATE IS REVERSIBLE.**



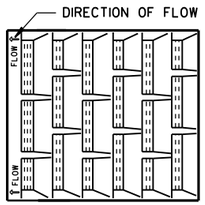

## TYPE "A"

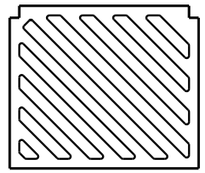
## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

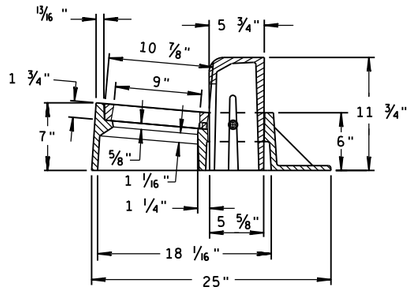


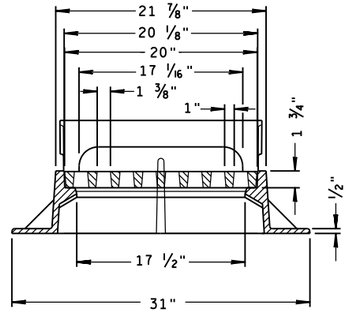




**SPECIAL GRATE FOR TYPE "A" COVER**

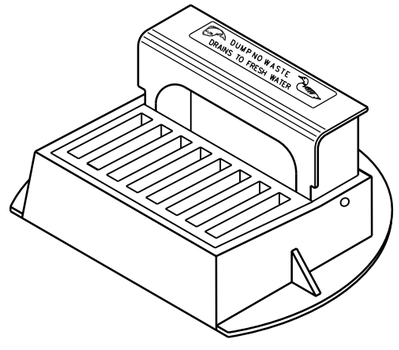
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)




## TYPE "Z"




**INLET COVERS**
**TYPE A, H, A-S, H-S & Z**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

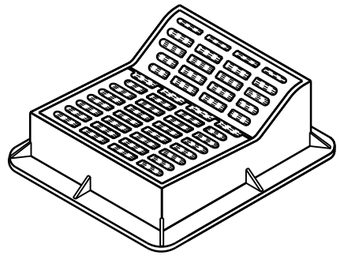
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

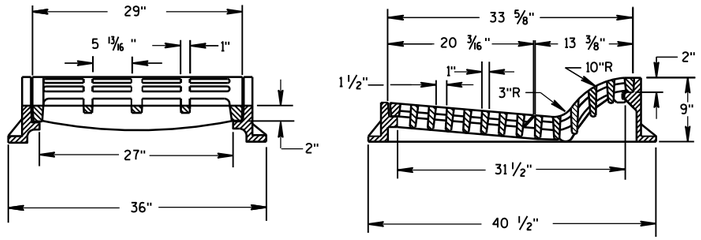




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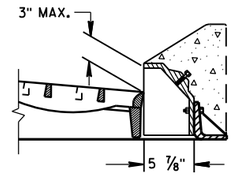
S.D.D. 8 A 5-19a






## TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.




## ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

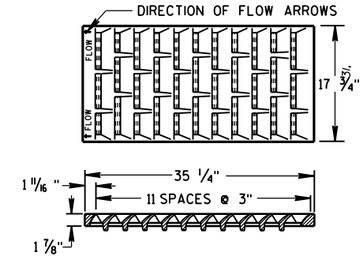
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

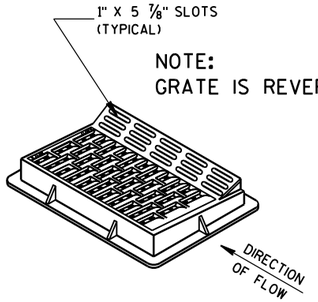
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

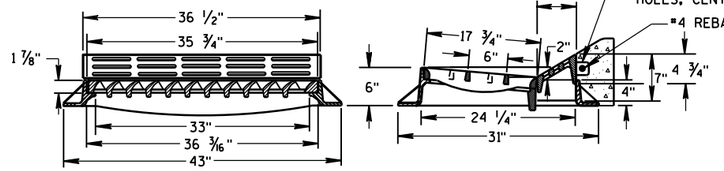
## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



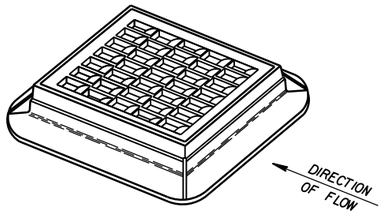



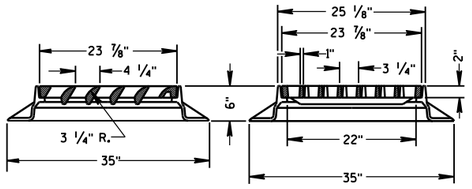




## TYPE "HM"

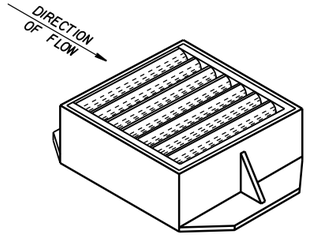
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

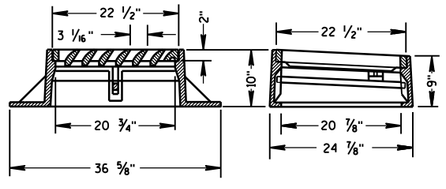
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



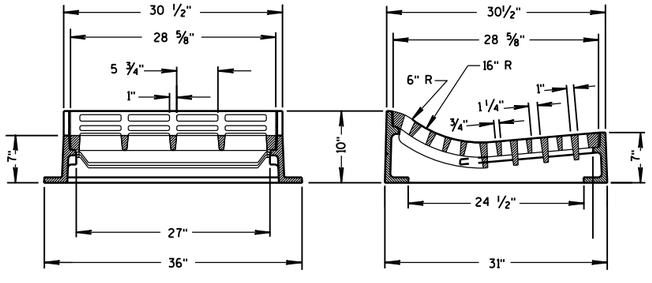



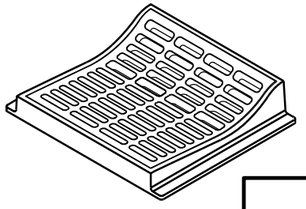

## TYPE "S"




## TYPE "V"



## TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

## INLET COVERS
## TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

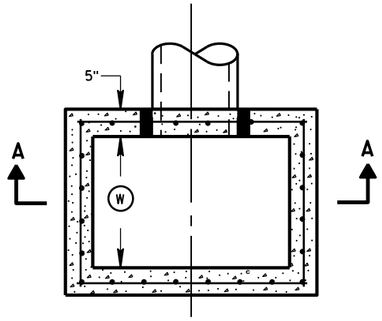


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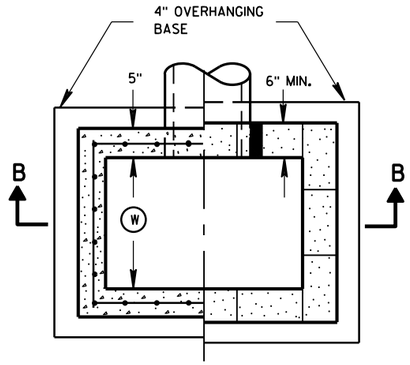
S.D.D. 8 A 5-19c

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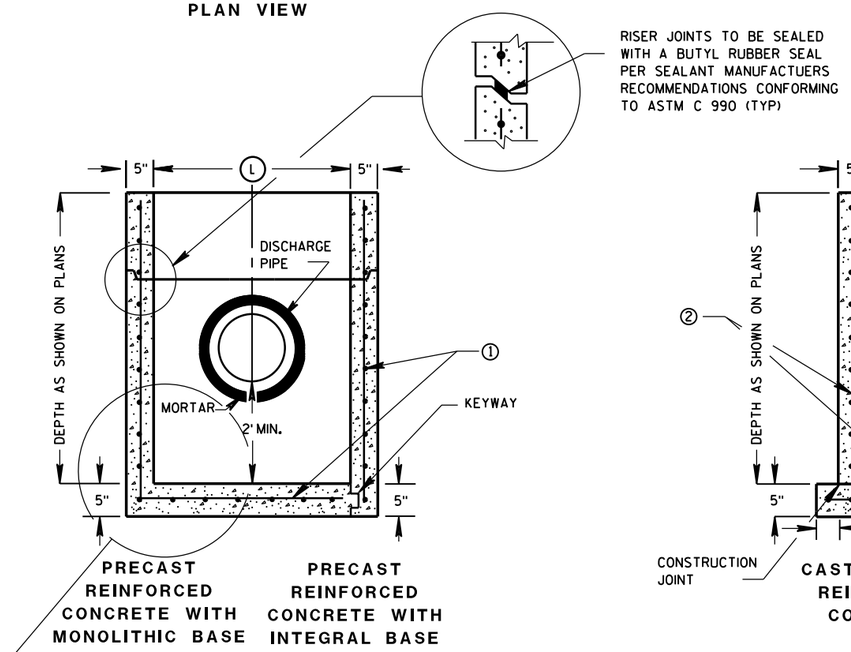
S.D.D. 8 A 5-19c



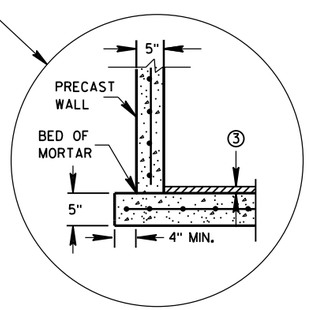

PLAN VIEW



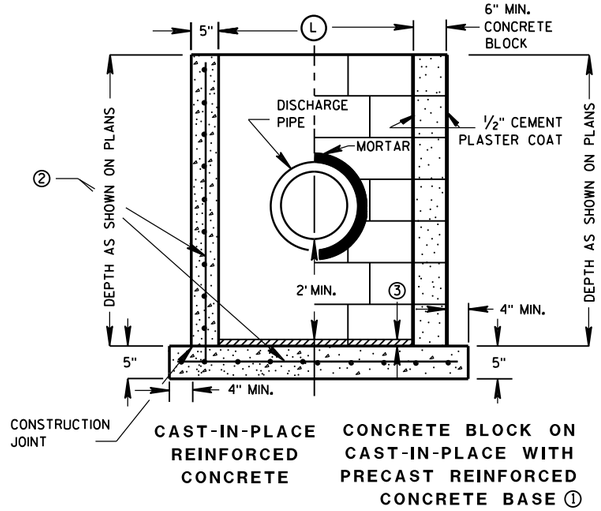

PLAN VIEW




SECTION A-A




SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION




SECTION B-B

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST CATCH BASIN UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

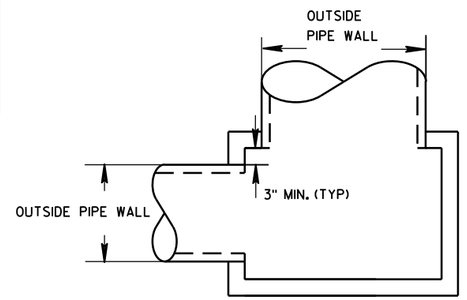
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

### CATCH BASIN COVER MATRIX

| CATCH BASIN SIZE | | INLET COVER TYPE | F | ALL H'S |
|---|---|---|---|---|
| | WIDTH (W) (FT) | LENGTH (L) (FT) | | |
| 2X3-FT | 2 | 3 | | X |
| 2.5X3-FT | 2.5 | 3 | X | |

### PIPE MATRIX

| CATCH BASIN SIZE | MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES | |
|---|---|---|
| | WIDTH (IN) | LENGTH (IN) |
| 2X3-FT | 12 | 24 |
| 2.5X3-FT | 18 | 24 |




DETAIL "A"

CATCH BASINS 2X3-FT AND 2.5X3-FT

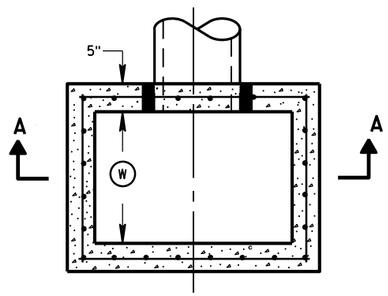
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

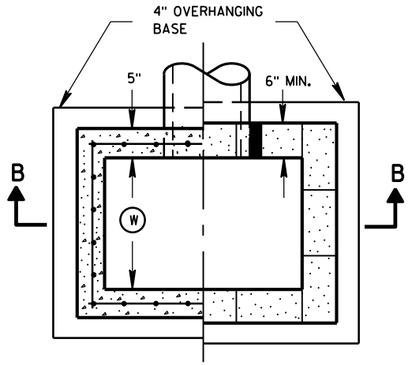



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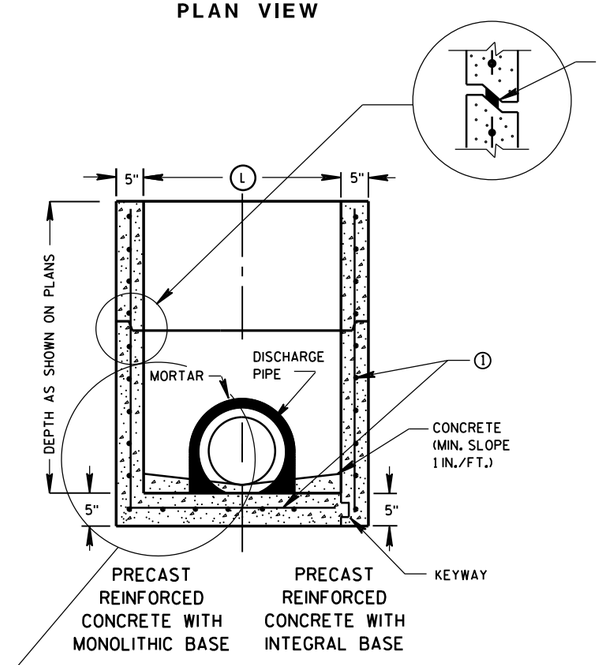

S.D.D. 8 A 9-2



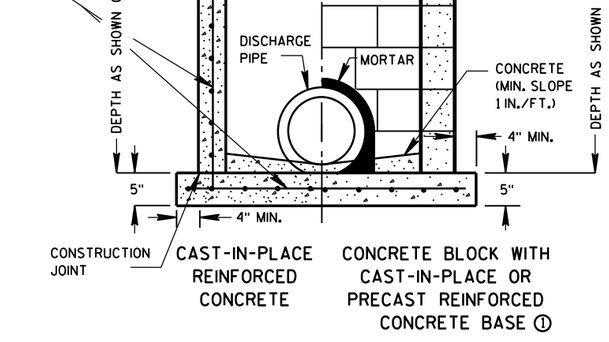

PLAN VIEW



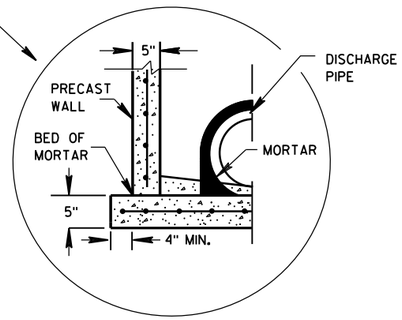

PLAN VIEW




SECTION A-A




SECTION B-B




SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

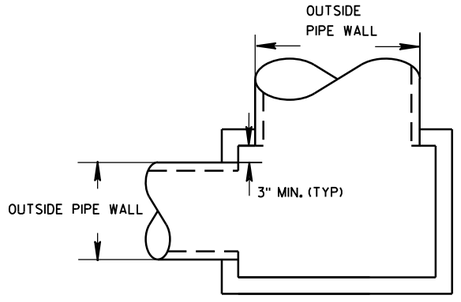
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

## INLET COVER MATRIX

| INLET SIZE | | INLET COVER TYPE | ALL A'S | ALL B'S | BW | F | ALL H'S | S | T | V | WM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | WIDTH (W) (FT) | LENGTH (L) (FT) | | | | | | | | | |
| 2X2-FT | 2 | 2 | X | X | | | | X | | X | |
| 2X2.5-FT | 2 | 2.5 | | | X | | | X | X | X | X |
| 2X3-FT | 2 | 3 | | | | | X | | | | |
| 2.5X3-FT | 2.5 | 3 | | | | X | | | | | |

## PIPE MATRIX

| INLET SIZE | MAXIMUM INSIDE PIPE DIAMETER | |
|---|---|---|
| | WIDTH (IN) | LENGTH (IN) |
| 2X2-FT | 12 | 12 |
| 2X2.5-FT | 12 | 18 |
| 2X3-FT | 12 | 24 |
| 2.5X3-FT | 18 | 24 |



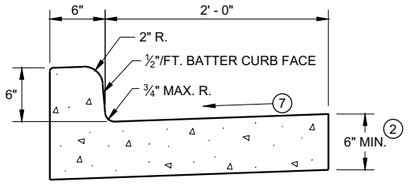

DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

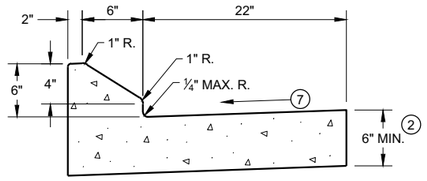
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT UNIT SUPERVIS
FHWA

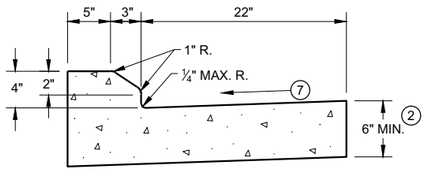
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT



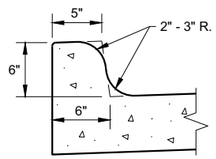

**TYPES A (1) & D**



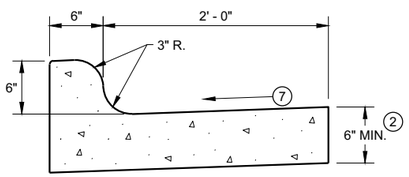

**6" SLOPED CURB TYPES G (1) & J**




**4" SLOPED CURB TYPES G (1) & J**

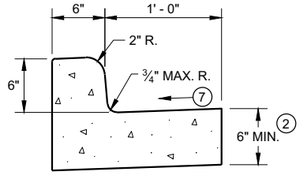



**TYPES K (1) & L**
(OPTIONAL CURB SHAPE)



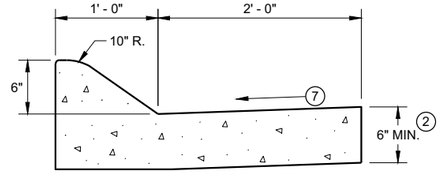

**TYPES K (1) & L**

**CONCRETE CURB AND GUTTER 30"**

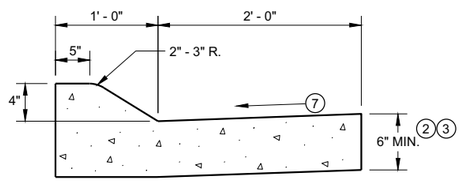



**TYPES A (1) & D**

**CONCRETE CURB AND GUTTER 18"**

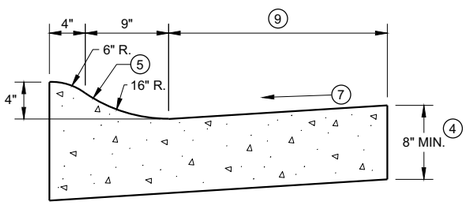



**6" SLOPED CURB TYPES A (1) & D**



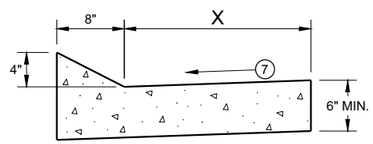

**4" SLOPED CURB TYPES A (1) & D**

**CONCRETE CURB AND GUTTER 36"**




**4" SLOPED CURB TYPES R (1) & T**

| TBT & TBTT | X |
|---|---|
| 30" | 22" |
| 36" | 28" |

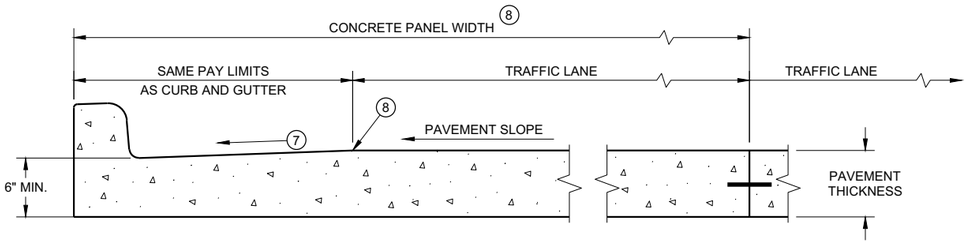



**TYPES TBT & TBTT (1)**

**CONCRETE CURB AND GUTTER**

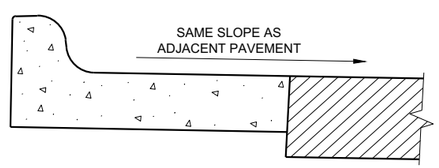
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

| PAVEMENT THICKNESS | MAXIMUM PANEL WIDTH |
|---|---|
| LESS THAN 10" | 12' |
| 10" & ABOVE | 15' |




**PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER**

* BIKE LANE IS NOT SHOWN




**REVERSE SLOPE GUTTER (6)**
(TYPICAL FOR ALL CURB & GUTTER TYPES)

## GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

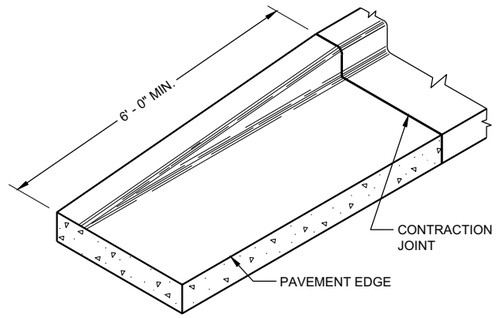
**CONCRETE CURB AND GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

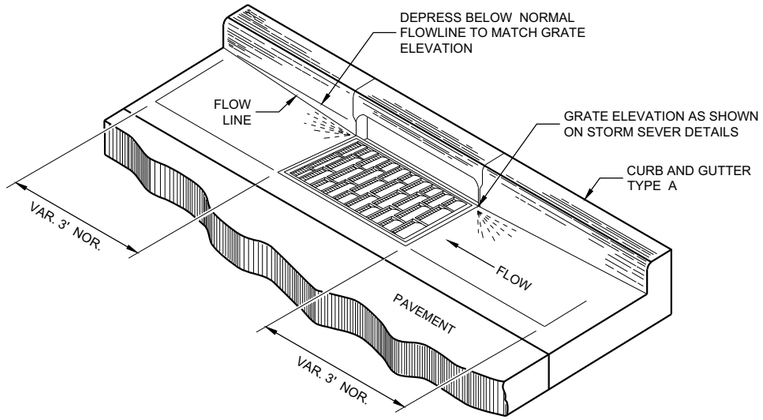



6


SDD 08D01 - 22a




**END SECTIONCURB AND GUTTER**




**DETAIL OF CURB AND GUTTER AT INLETS**
(TYPICAL H INLET COVER SHOWN)

## GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

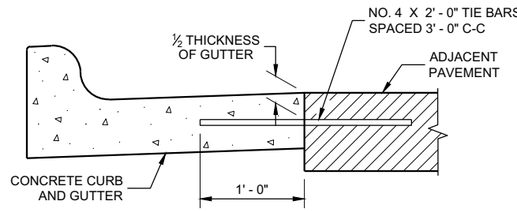
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

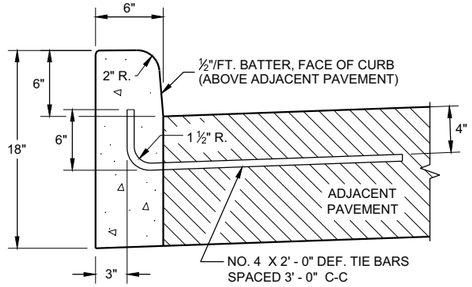
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

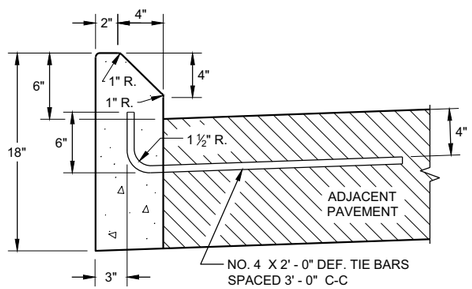
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.




**TYPICAL TIE BAR LOCATION (1)**

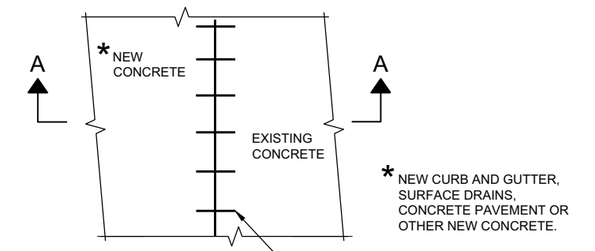



**TYPES A (1) & D**

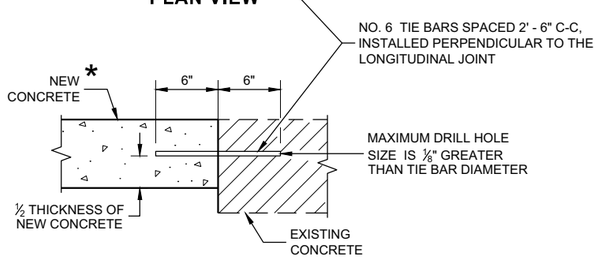



**TYPES G (1) & J**

**CONCRETE CURB**

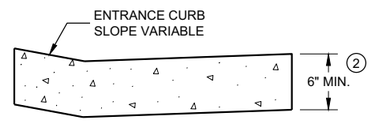



**PLAN VIEW**




**SECTION A - A**

**TIE BARS DRILLED INTO EXISTING PAVEMENT**




**DRIVEWAY ENTRANCE CURB (9)**
(WHEN DIRECTED BY THE ENGINEER)

**CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA




6

SDD08D01 - 22b

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

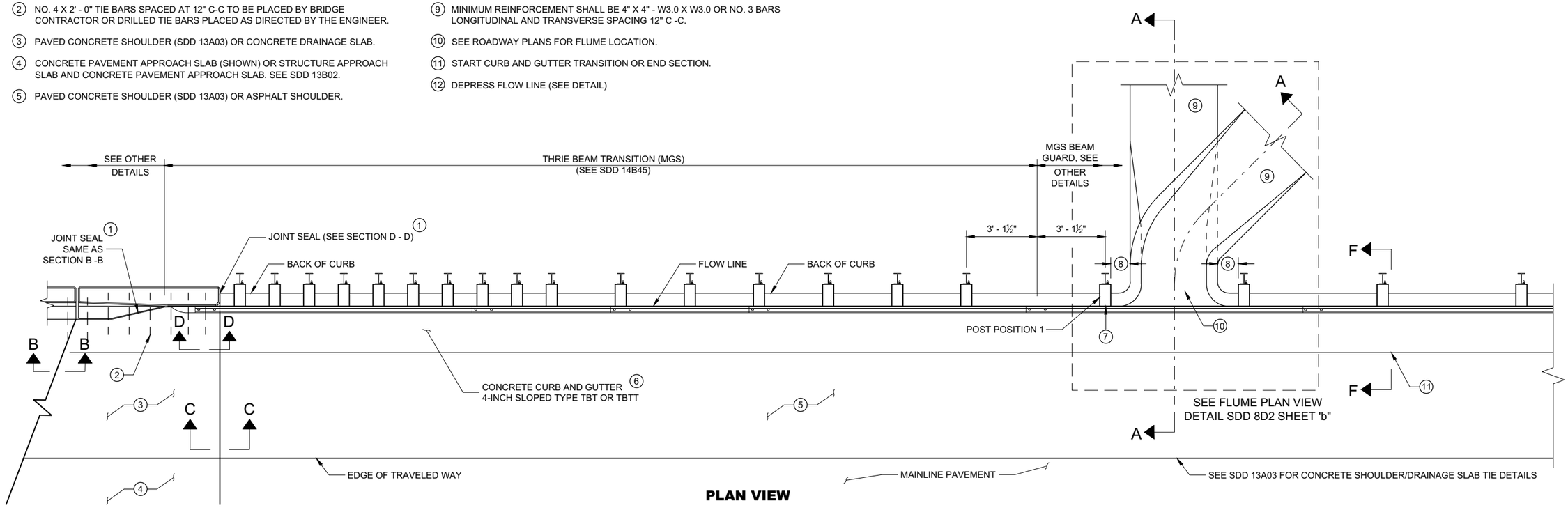
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

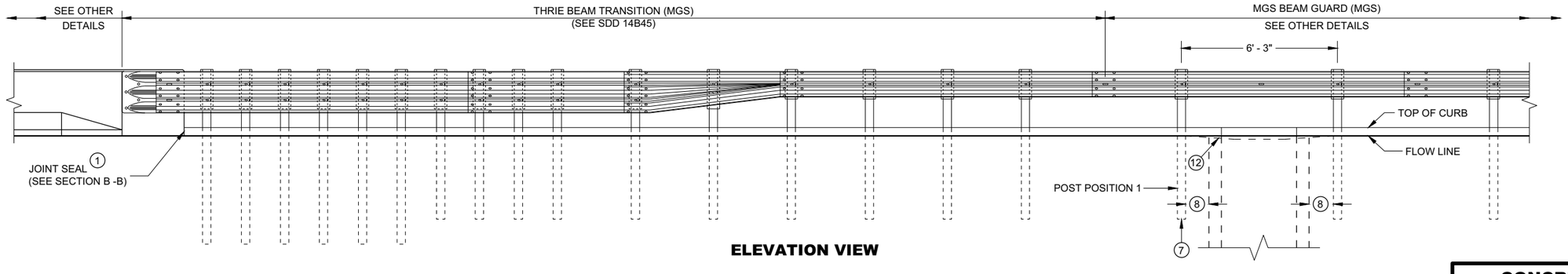
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)




**PLAN VIEW**




**ELEVATION VIEW**

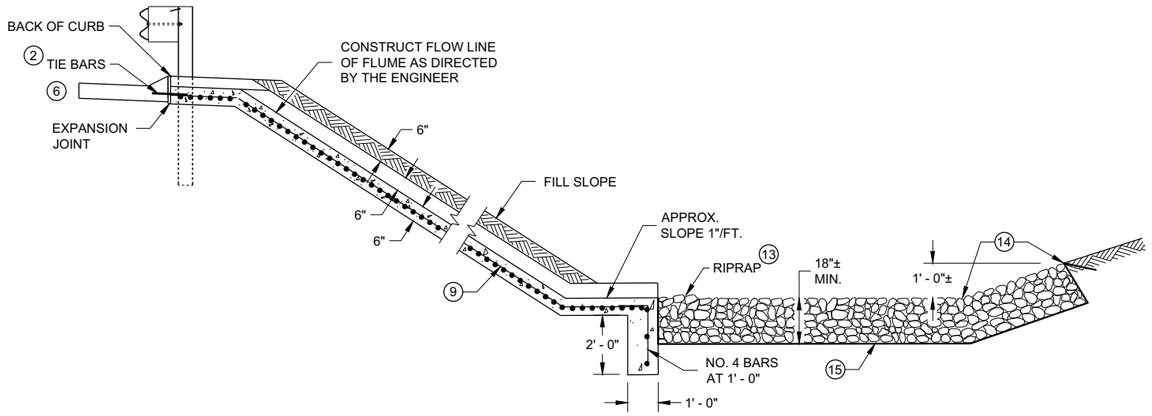
**CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

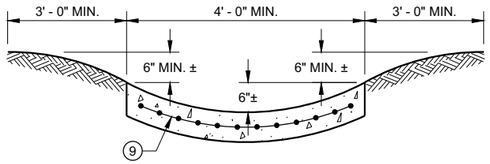


SDD 08D02 - 07a

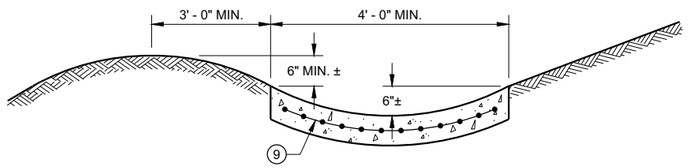
SDD 08D02 - 07a



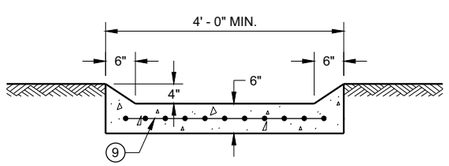

**SECTION A - A**



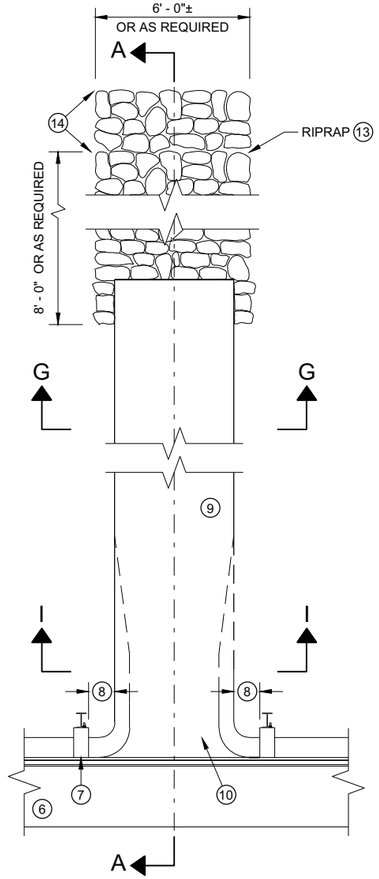

**SECTION G - G**



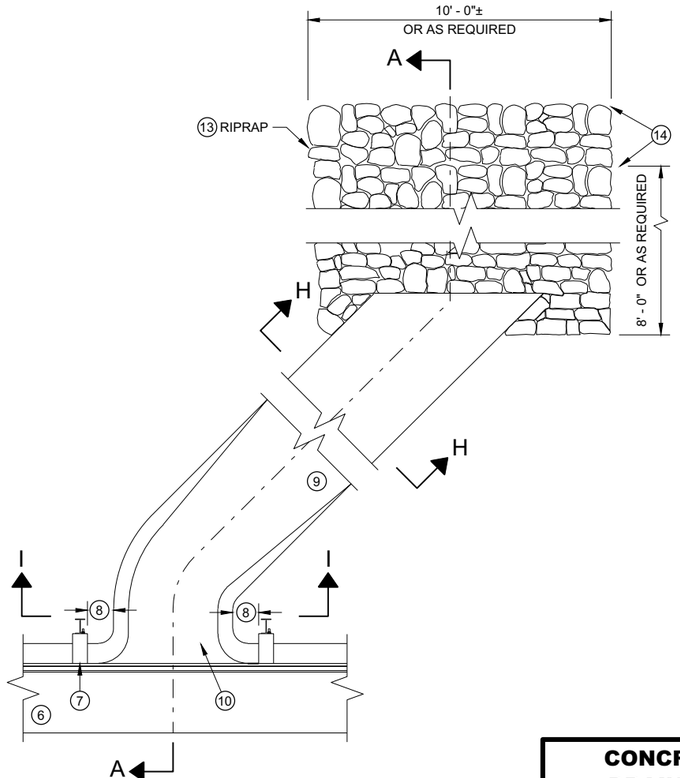

**SECTION H - H**




**SECTION I - I**




**PLAN VIEW PERPENDICULAR FLUME**




**PLAN VIEW SKEWED FLUME**

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE FABRIC TYPE HR.

**CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

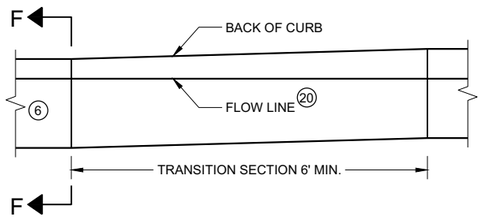


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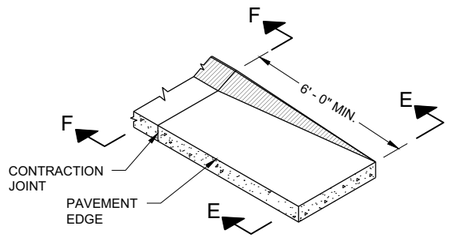
SDD 08D02 - 07b

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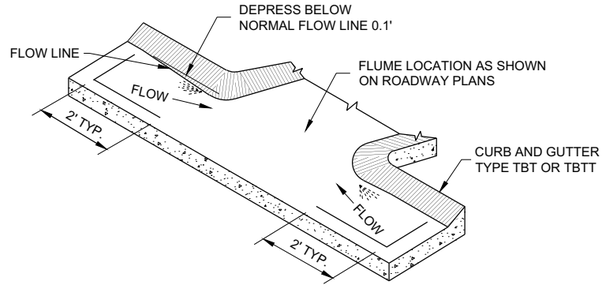
SDD 08D02 - 07b




**CURB AND GUTTER TRANSITION SECTION**
**CONCRETE CURB AND GUTTER 4-INCH SLOPED**
**36 INCH TYPE TBT OR TBTT**




**CURB AND GUTTER END SECTION**
**CONCRETE CURB AND GUTTER 4-INCH SLOPED**
**36 INCH TYPE TBT OR TBTT**




**CURB AND GUTTER FLOW LINE DEPRESSION**
**AT FLUMES CONCRETE CURB AND GUTTER**
**4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(15) GEOTEXTILE FABRIC TYPE HR.

(16) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

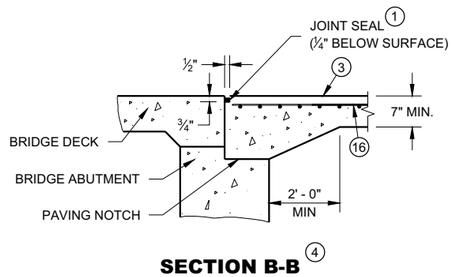
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

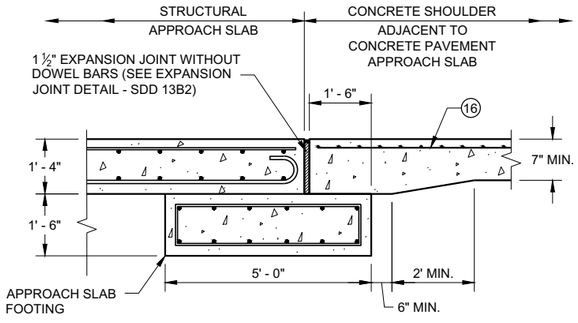
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

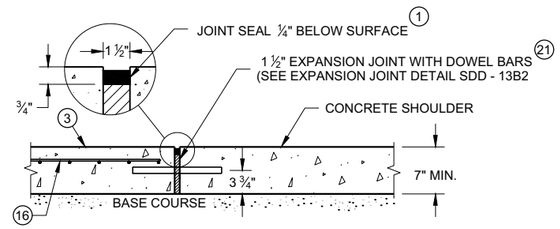
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



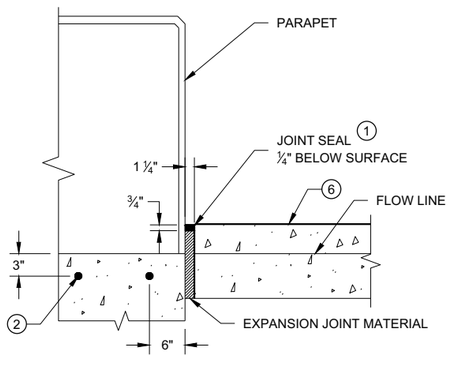

**SECTION B-B**



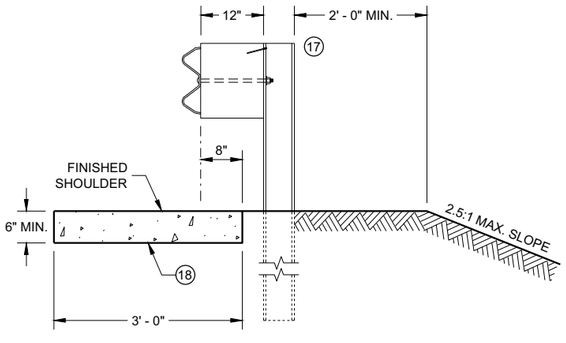

**SECTION C - C**
**JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB**



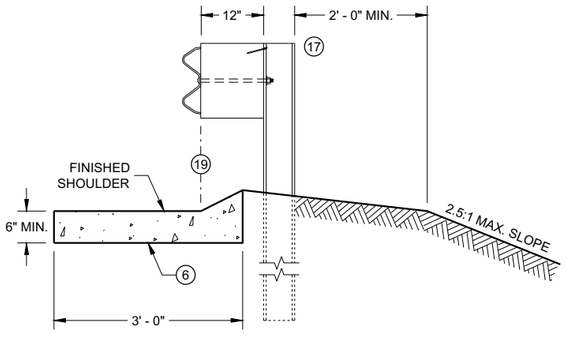

**SECTION C - C**
**JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS**




**SECTION D - D**




**SECTION E - E**




**SECTION F - F**

**CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

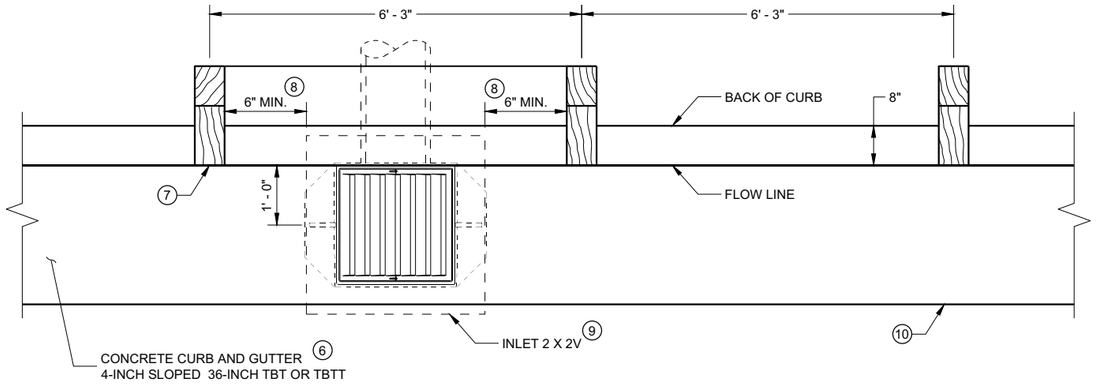


SDD 08D02 - 07c

SDD 08D02 - 07c

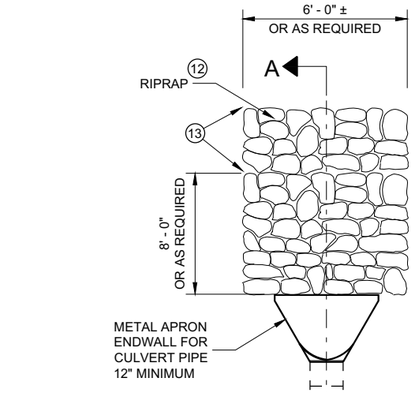
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6




## INLET PLAN VIEW

(NOTE: RAIL NOT SHOWN FOR CLARITY)




## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

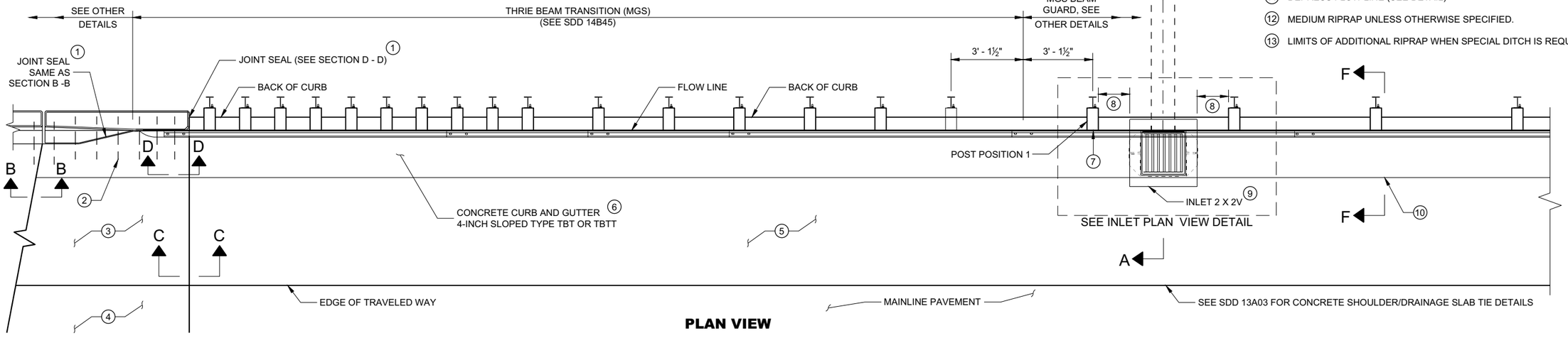
(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

(10) START CURB AND GUTTER TRANSITION OR END SECTION.

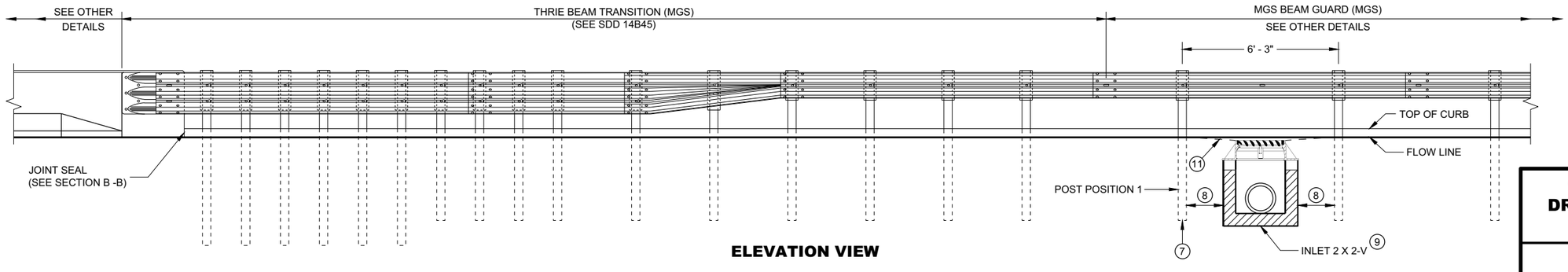
(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(13) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.




## PLAN VIEW




## ELEVATION VIEW

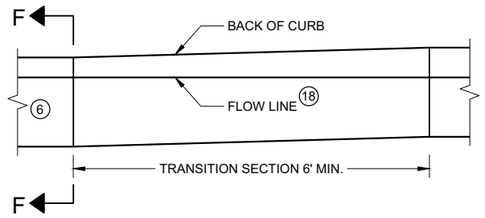
**CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

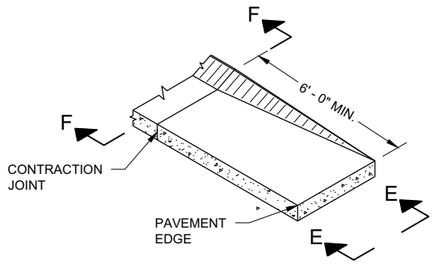


SDD 08D03 - 08a

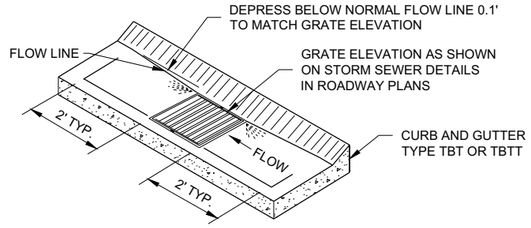
SDD 08D03 - 08a




**CURB AND GUTTER TRANSITION SECTION**
**CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**




**CURB AND GUTTER END SECTION**
**CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**




**CURB AND GUTTER FLOW LINE DEPRESSION AT INLETS CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

(10) START CURB AND GUTTER TRANSITION OR END SECTION.

(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(13) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(14) GEOTEXTILE FABRIC TYPE HR.

(15) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(16) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

(17) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

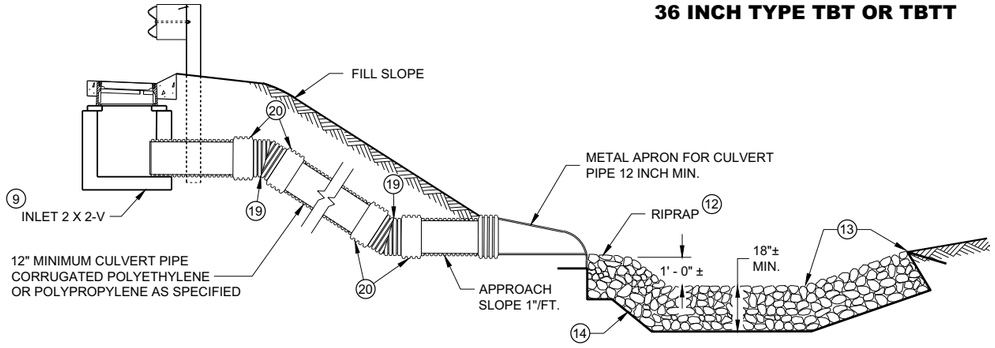
(18) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

(19) MANUFACTURER SUPPLIED BEND.

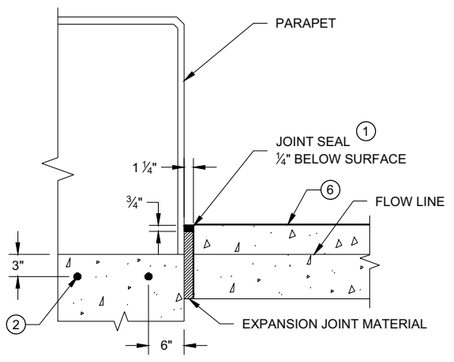
(20) MANUFACTURER SUPPLIED EXTERNAL MECHANICAL COUPLING OR A MANUFACTURER RECOMMENDED COUPLING WITH A MASTIC IMPREGNATED GEOTEXTILE WRAP AND MECHANICAL FASTENING BANDS.

(21) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

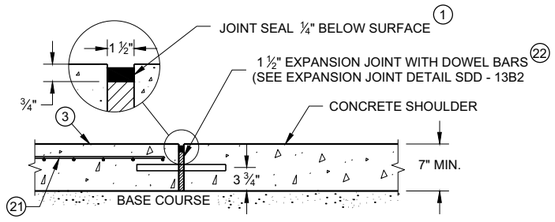
(22) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



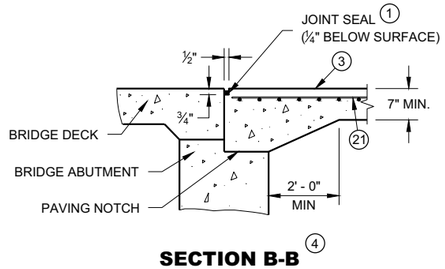

**SECTION A - A**



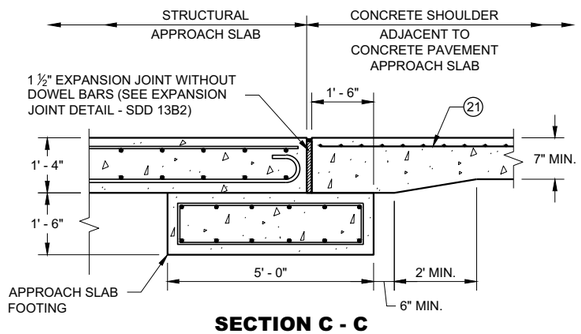

**SECTION D - D**



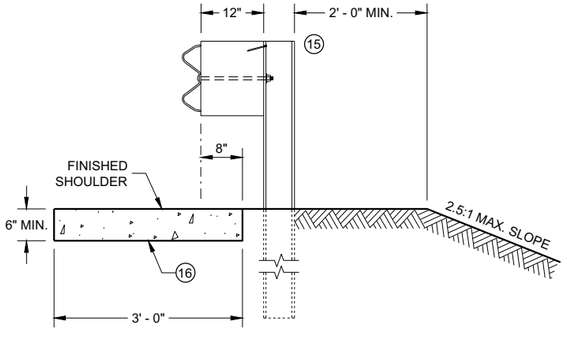

**SECTION C - C**
**JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS**



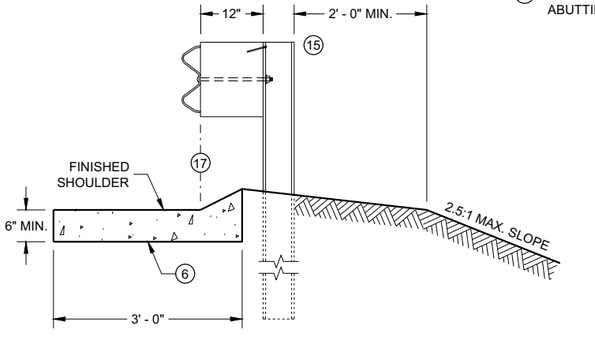

**SECTION B-B** (4)




**SECTION C - C**
**JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB**




**SECTION E - E**




**SECTION F - F**

**CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

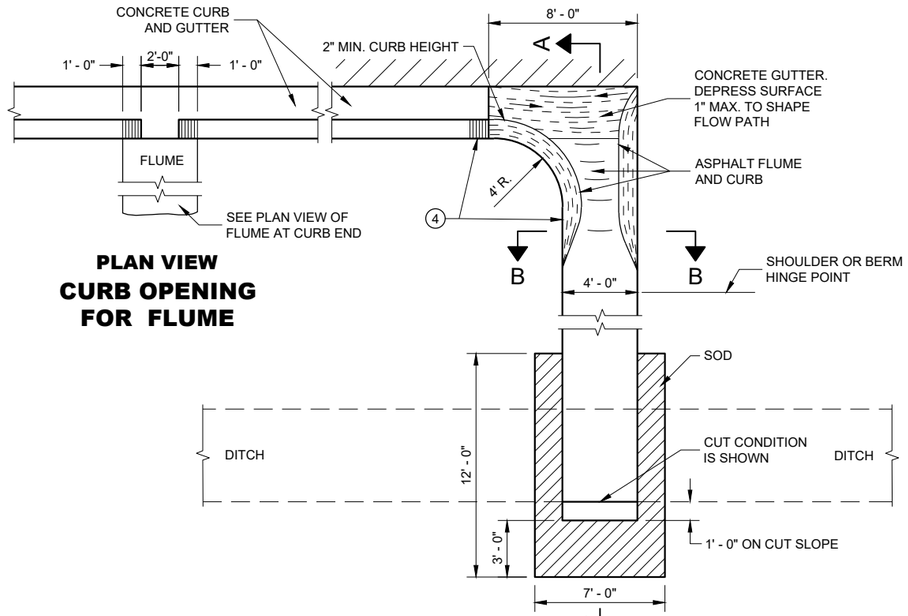



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SDD 08D03 - 08b

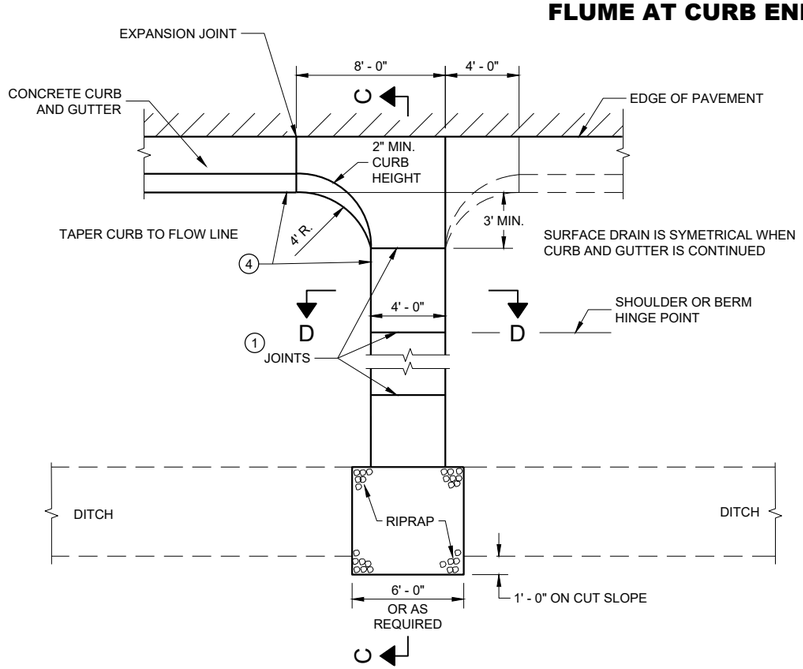
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

## ASPHALTIC FLUME




**PLAN VIEW**
**CURB OPENING FOR FLUME**

**PLAN VIEW**
**FLUME AT CURB END**



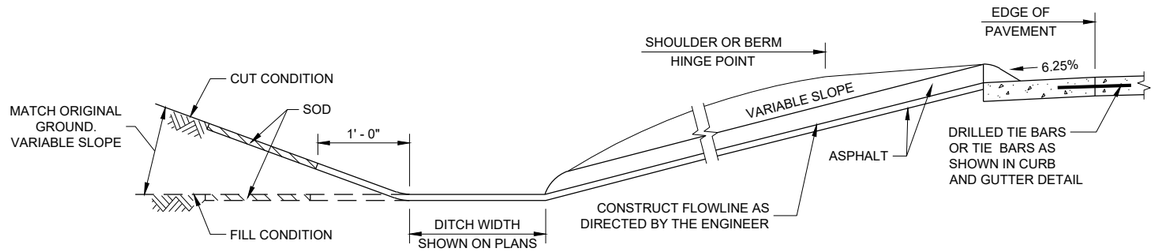

**PLAN VIEW**
**CONCRETE SURFACE DRAIN**

## GENERAL NOTES

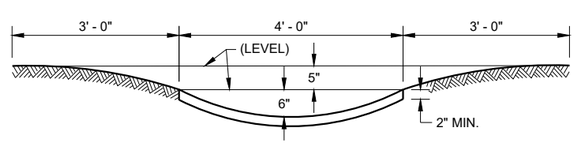
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

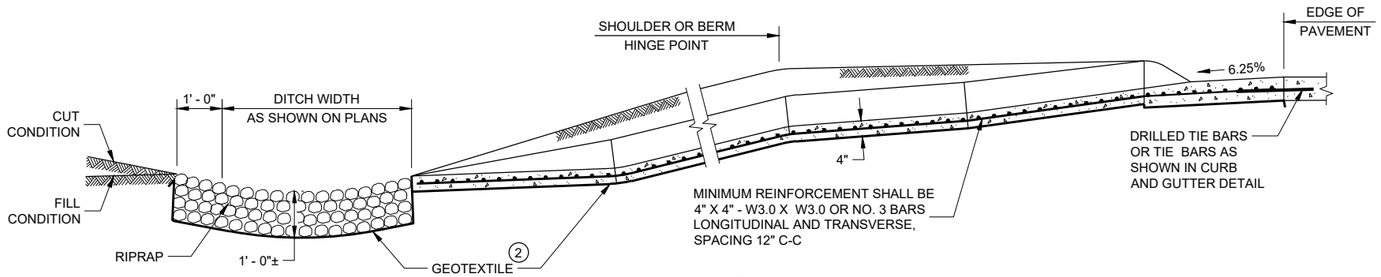
1. JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
3. CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
4. ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



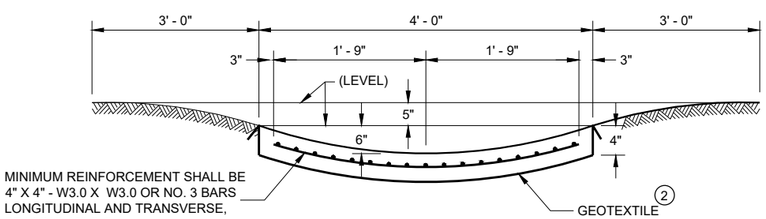

**SECTION A - A**




**SECTION B - B**




**SECTION C - C**




**SECTION D - D**

**CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

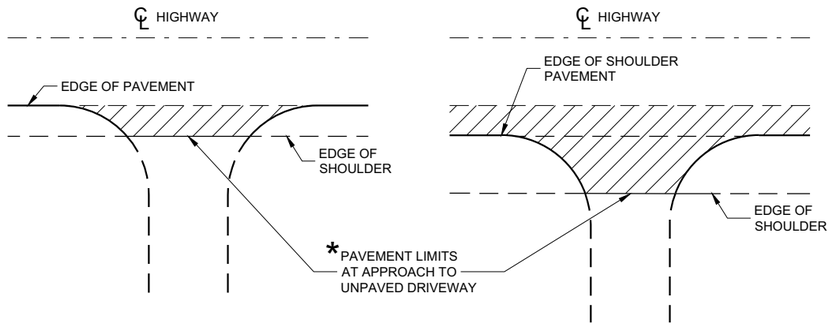


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SDD 08D04 - 06

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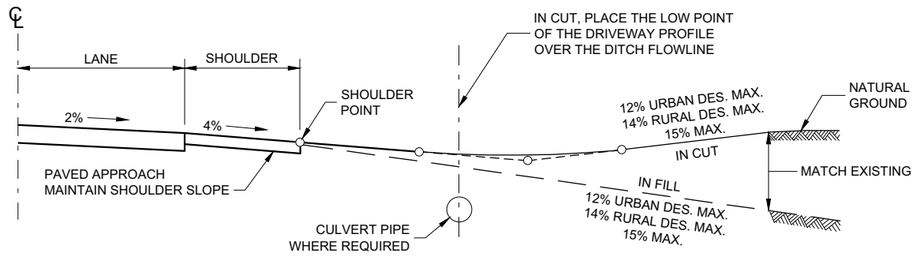
SDD 08D04 - 06



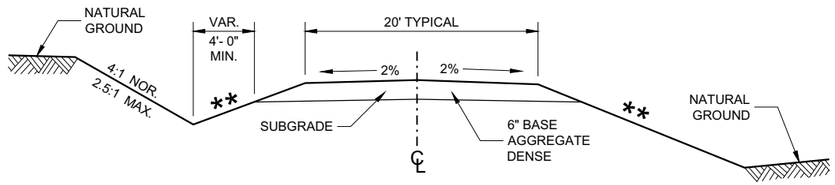

**PLAN VIEW**
(UNPAVED SHOULDER ON HIGHWAY)

**PLAN VIEW**
(PAVED SHOULDER ON HIGHWAY)

## RURAL DRIVEWAY INTERSECTION DETAIL
## (NO CURB AND GUTTER OR SIDEWALK)




## TYPICAL DRIVEWAY PROFILES

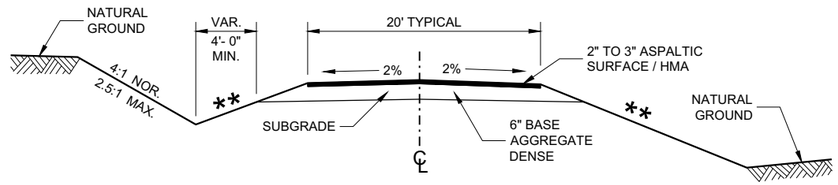



**IN CUT** **IN FILL**

## TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

| POSTED SPEED MPH | MAX. SLOPE |
|---|---|
| <35 | 4:1 |
| ≥ 35 TO < 60 | 6:1 |
| ≥60 | 10:1 |




**IN CUT** **IN FILL**

## TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

6

SDD 08D21 - 01

## DRIVEWAYS WITHOUT CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

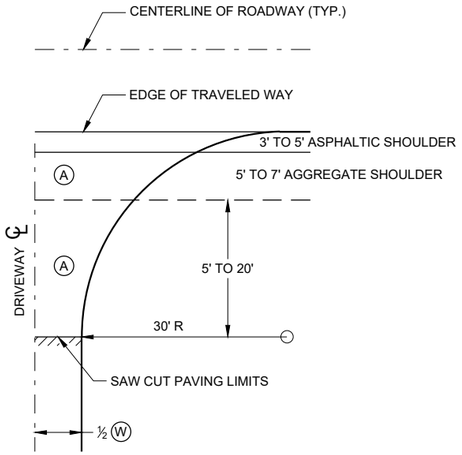


6

SDD 08D21 - 01

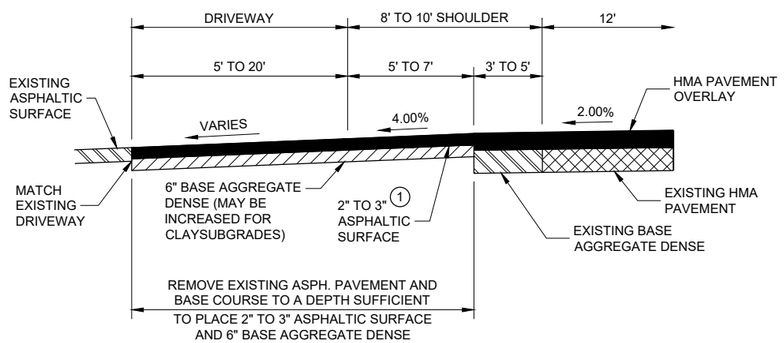
## GENERAL NOTES

(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.




**PLAN VIEW**

**HALF SECTION**



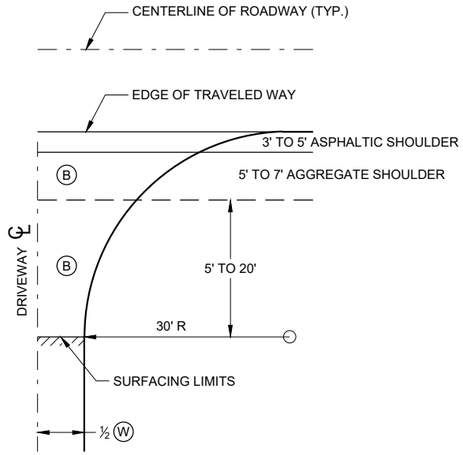

**PROFILE VIEW**

**RURAL ENTRANCE**
**WITH ASPHALTIC SURFACE**
**RESURFACING PROJECTS**

(A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)

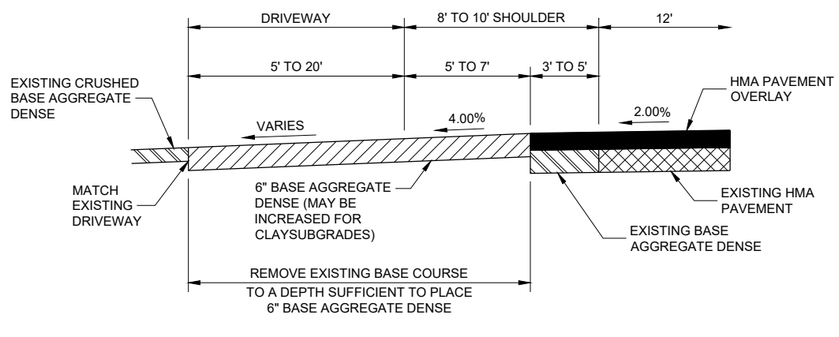
(B) : PAID FOR AS BASE AGGREGATE DENSE 1 ¼" (TON)

(W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.




**PLAN VIEW**

**HALF SECTION**




**PROFILE VIEW**

**RURAL ENTRANCE**
**WITH AGGREGATE SURFACE**
**6" BASE AGGREGATE DENSE**
**RESURFACING PROJECTS**

# DRIVEWAYS WITHOUT CURB AND GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

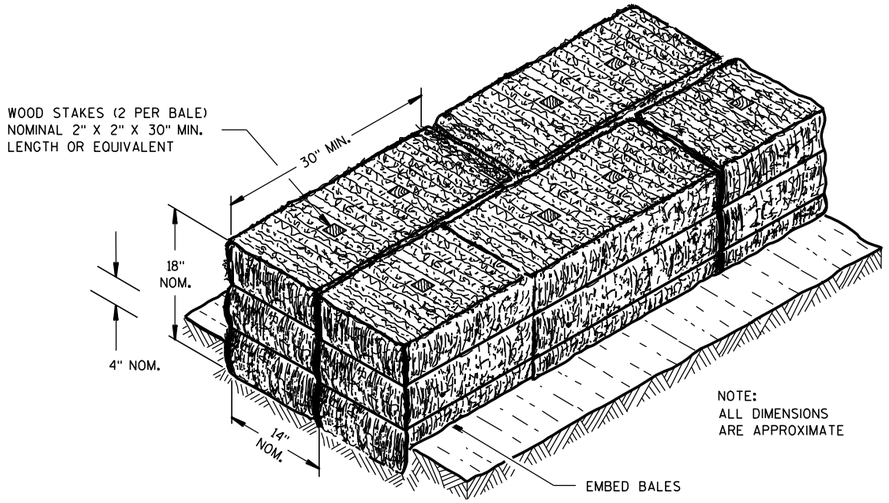


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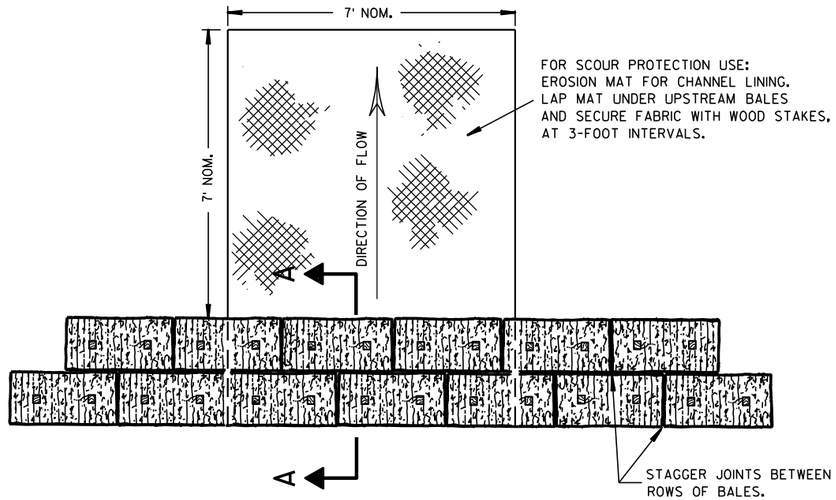
SDD 08D22 - 01

6

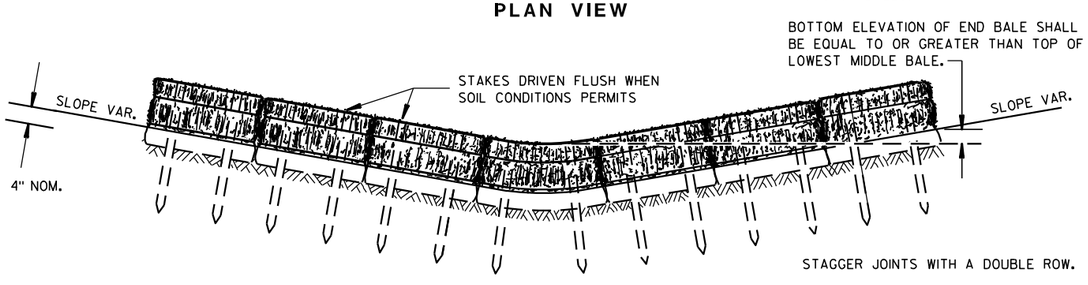
SDD 08D22 - 01




SECTION A-A




PLAN VIEW



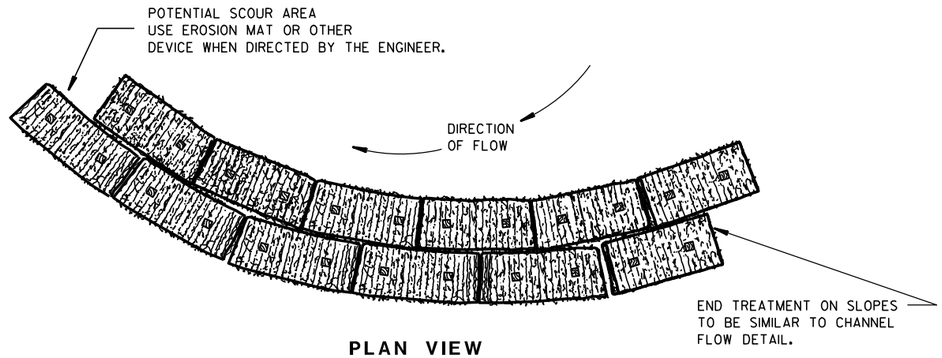

FRONT ELEVATION

## TEMPORARY DITCH CHECK USING EROSION BALES (1)

## GENERAL NOTES

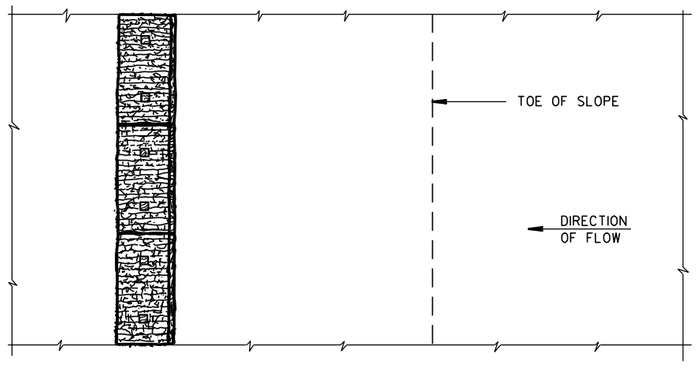
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

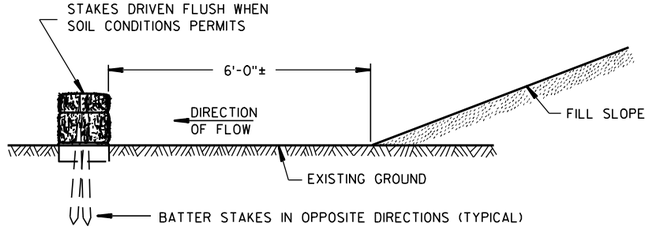



PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW




PLAN VIEW




FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

## EROSION BALES FOR SHEET FLOW

**TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

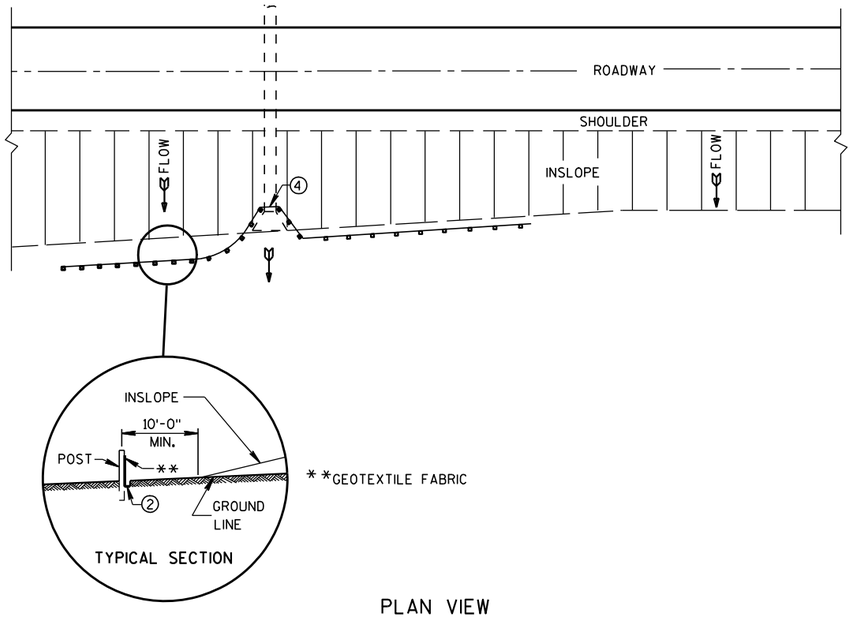




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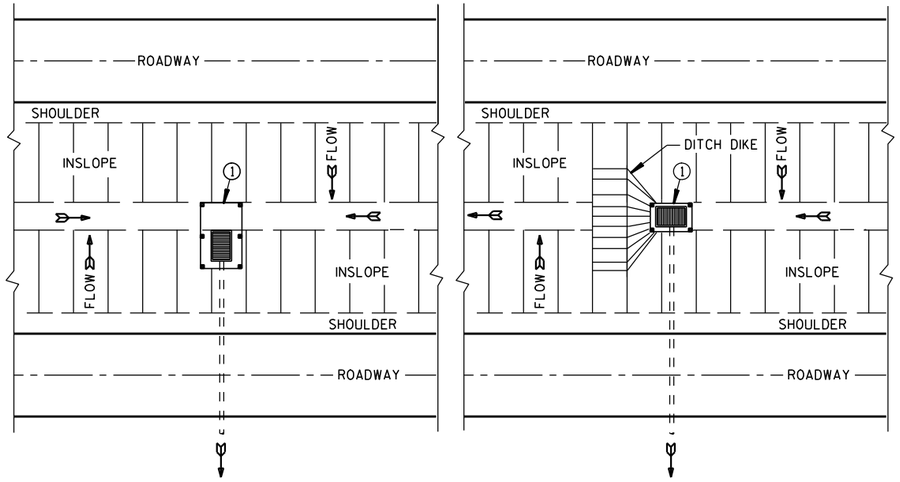


S.D.D. 8 E 8-3




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE



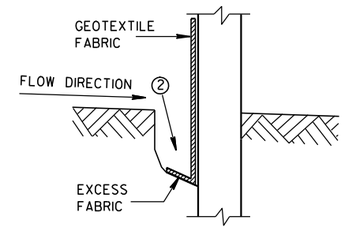

PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

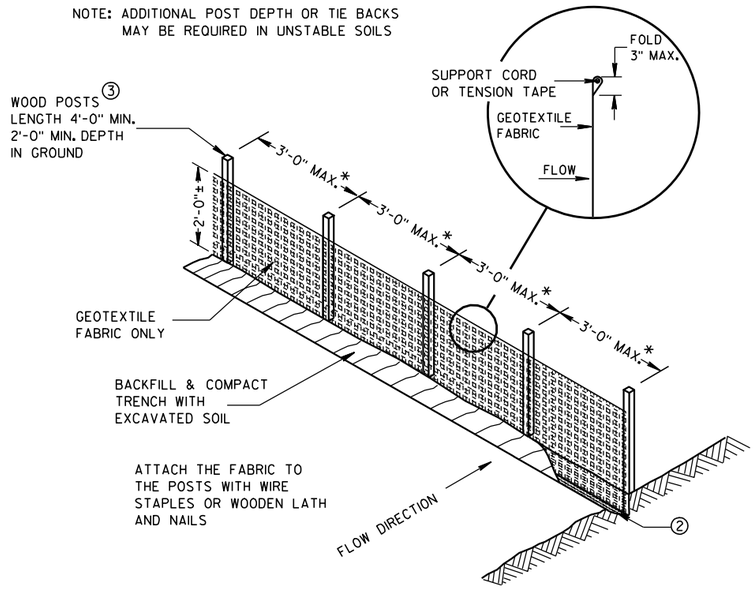
## GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

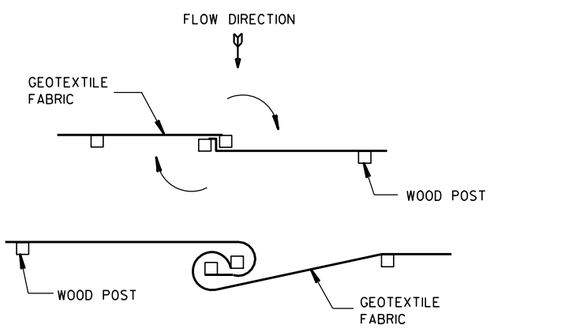
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



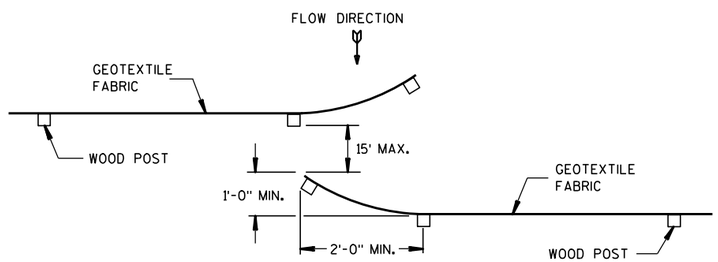

## TRENCH DETAIL




## SILT FENCE

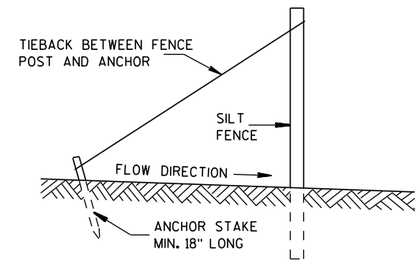



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE 5




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

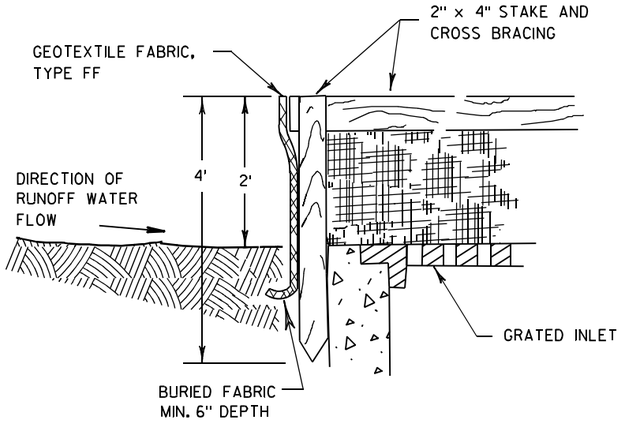


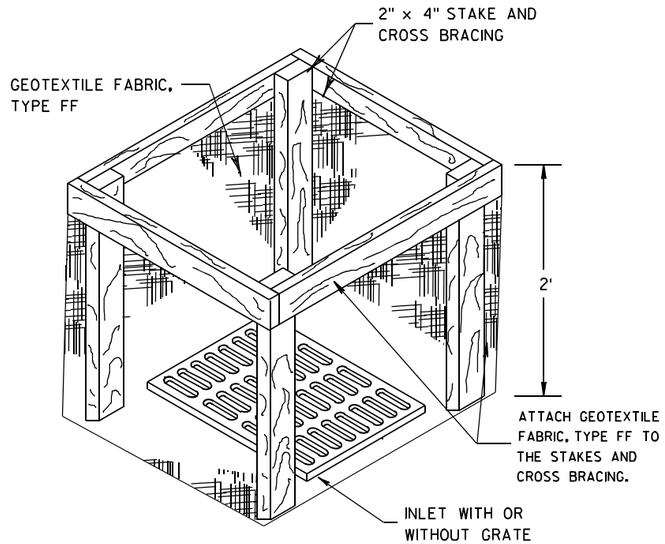
6

S.D.D. 8 E 9-6

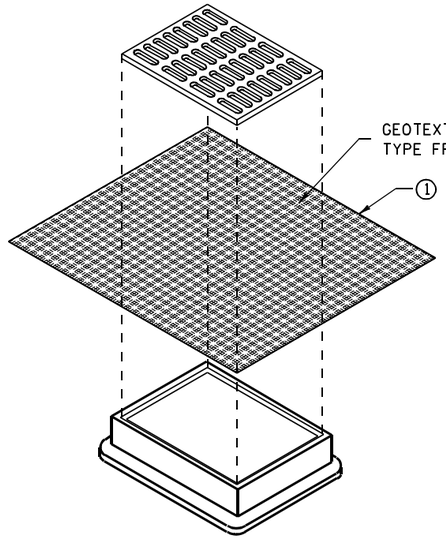
6

S.D.D. 8 E 9-6



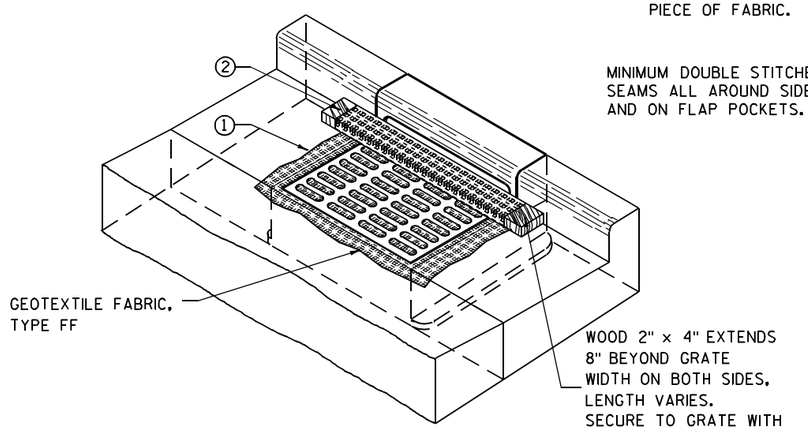




## INLET PROTECTION, TYPE A

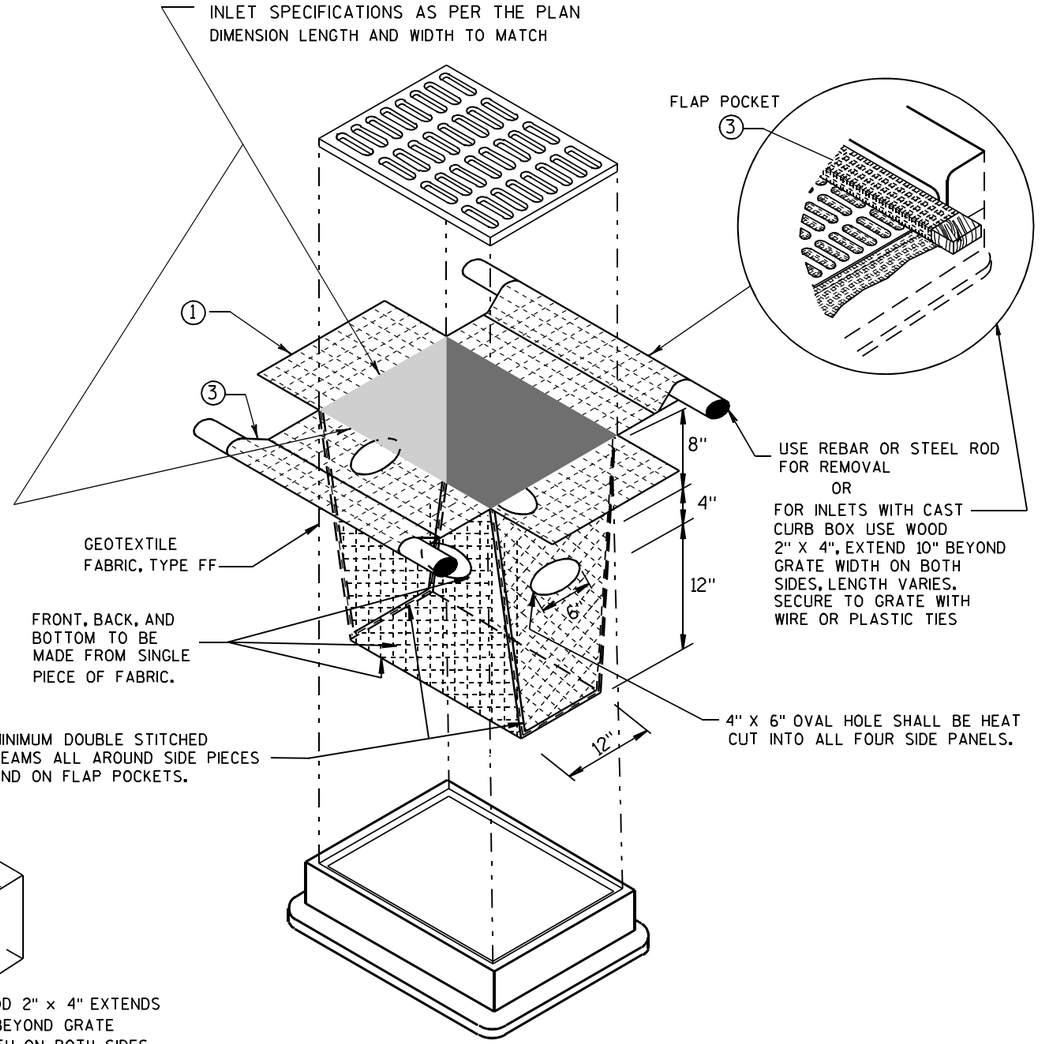



## INLET PROTECTION, TYPE B
## (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)




## INLET PROTECTION, TYPE C (WITH CURB BOX)




## INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ② )

## GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

## INSTALLATION NOTES

### TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

### TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

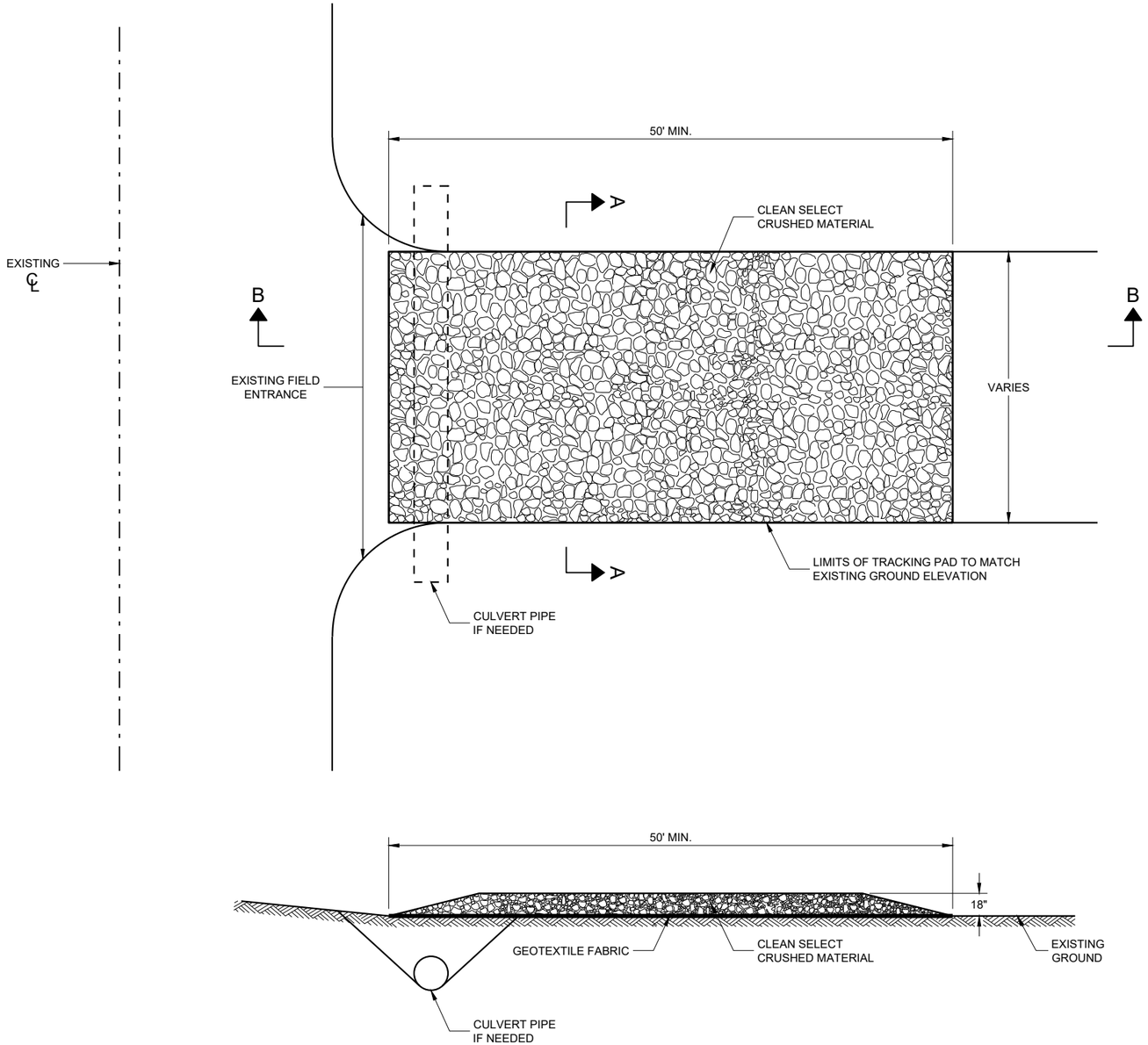
**INLET PROTECTION**
**TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA




6
S.D.D. 8 E 10-2







**SECTION B - B**

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

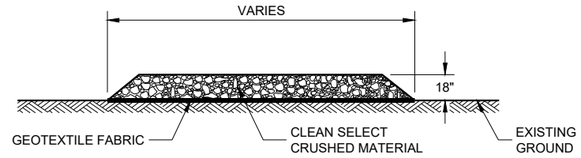
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.




**SECTION A - A**

# TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVE ENGINEER

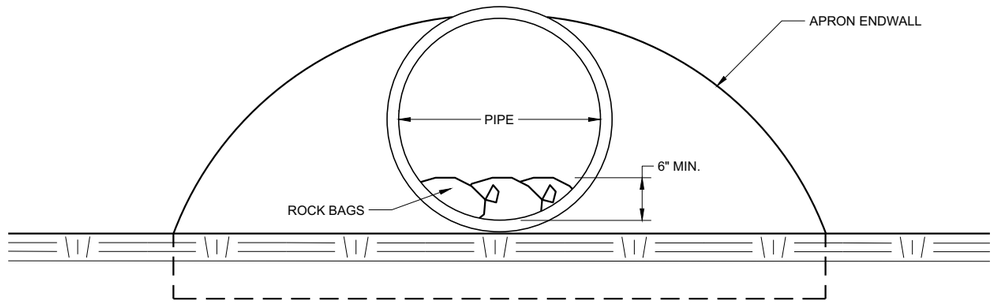
FHWA



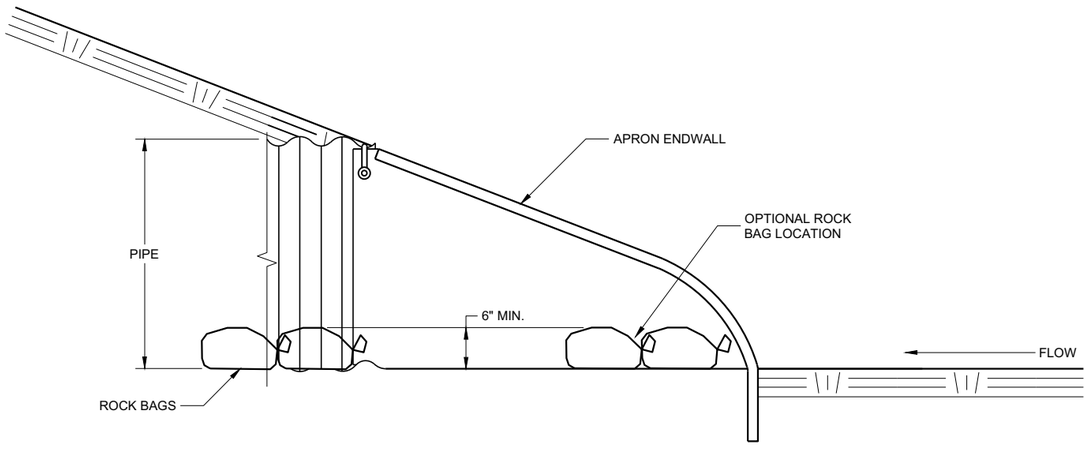
6



SDD 08E14 - 01




**END VIEW**




**SIDE VIEW**

## CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

| CULVERT PIPE CHECK | |
|---|---|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION | |
| APPROVED<br>May 2019<br>DATE | /S/ Daniel Schave<br>EROSION CONTROL ENGI |
| FHWA | |




6

SDD 08E15 - 01

## METAL APRON ENDWALLS

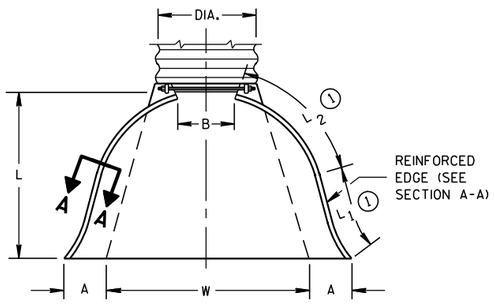
| PIPE DIA. (IN.) | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17 1/2 | 24 | 2 1/2 to 1 | 1 Pc. |
| 15 | .064 | .060 | 7 | 8 | 6 | 26 | 14 | 21 3/4 | 30 | 2 1/2 to 1 | 1 Pc. |
| 18 | .064 | .060 | 8 | 10 | 6 | 31 | 15 | 28 1/4 | 36 | 2 1/2 to 1 | 1 Pc. |
| 21 | .064 | .060 | 9 | 12 | 6 | 36 | 18 | 29 5/8 | 42 | 2 1/2 to 1 | 1 Pc. |
| 24 | .064 | .075 | 10 | 13 | 6 | 41 | 18 | 37 1/4 | 48 | 2 1/2 to 1 | 1 Pc. |
| 30 | .079 | .075 | 12 | 16 | 8 | 51 | 18 | 52 1/4 | 60 | 2 1/2 to 1 | 1 Pc. |
| 36 | .079 | .105 | 14 | 19 | 9 | 60 | 24 | 59 3/4 | 72 | 2 1/2 to 1 | 2 Pc. |
| 42 | .109 | .105 | 16 | 22 | 11 | 69 | 24 | 75 5/8 | 84 | 2 1/2 to 1 | 2 Pc. |
| 48 | .109 | .105 | 18 | 27 | 12 | 78 | 24 | 81 | 90 | 2 1/4 to 1 | 3 Pc. |
| 54 | .109 | .105 | 18 | 30 | 12 | 84 | 30 | 85 1/2 | 102 | 2 1/4 to 1 | 3 Pc. |
| 60 | .109× | .105× | 18 | 33 | 12 | 87 | — | — | 114 | 2 to 1 | 3 Pc. |
| 66 | .109× | .105× | 18 | 36 | 12 | 87 | — | — | 120 | 2 to 1 | 3 Pc. |
| 72 | .109× | .105× | 18 | 39 | 12 | 87 | — | — | 126 | 2 to 1 | 3 Pc. |
| 78 | .109× | .105× | 18 | 42 | 12 | 87 | — | — | 132 | 1 1/2 to 1 | 3 Pc. |
| 84 | .109× | .105× | 18 | 45 | 12 | 87 | — | — | 138 | 1 1/2 to 1 | 3 Pc. |
| 90 | .109× | .105× | 18 | 37 | 12 | 87 | — | — | 144 | 1 1/2 to 1 | 3 Pc. |
| 96 | .109× | .105× | 18 | 35 | 12 | 87 | — | — | 150 | 1 1/2 to 1 | 3 Pc. |

× EXCEPT CENTER PANEL SEE GENERAL NOTES

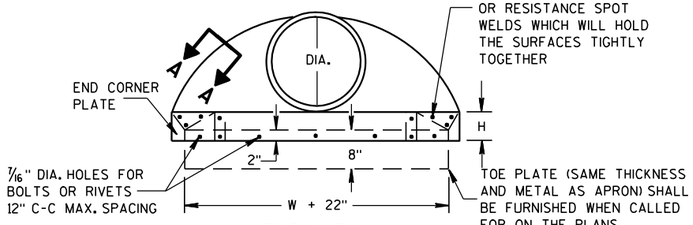
## REINFORCED CONCRETE APRON ENDWALLS

| PIPE DIA. (IN.) | DIMENSIONS (Inches) T | A | B | C | D | E | G | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|
| 12 | 2 | 4 | 24 | 48 7/8 | 72 1/8 | 24 | 2 | 3 to 1 |
| 15 | 2 1/4 | 6 | 27 | 46 | 73 | 30 | 2 1/4 | 3 to 1 |
| 18 | 2 1/2 | 9 | 27 | 46 | 73 | 36 | 2 1/2 | 3 to 1 |
| 21 | 2 3/4 | 9 | 36 | 37 1/2 | 73 1/2 | 42 | 2 3/4 | 3 to 1 |
| 24 | 3 | 9 1/2 | 43 1/2 | 30 | 73 1/2 | 48 | 3 | 3 to 1 |
| 27 | 3 1/4 | 10 1/2 | 49 1/2 | 24 | 73 1/2 | 54 | 3 1/4 | 3 to 1 |
| 30 | 3 1/2 | 12 | 54 | 19 3/4 | 73 1/2 | 60 | 3 1/2 | 3 to 1 |
| 36 | 4 | 15 | 63 | 34 3/4 | 97 3/4 | 72 | 4 | 3 to 1 |
| 42 | 4 1/2 | 21 | 63 | 35 | 98 | 78 | 4 1/2 | 3 to 1 |
| 48 | 5 | 24 | 72 | 26 | 98 | 84 | 5 | 3 to 1 |
| 54 | 5 1/2 | 27 | 65 | * 33 1/4 - ** 35 | * 98 1/4 - ** 100 | 90 | 5 1/2 | 2 2/5 to 1 |
| 60 | 6 | * 30 - ** 35 | 60 | 39 | 99 | 96 | 5 | 2 to 1 |
| 66 | 6 1/2 | * 24 - ** 30 | * 72 - ** 78 | * 21 - ** 27 | 99 | 102 | 5 1/2 | 2 to 1 |
| 72 | 7 | * 24 - ** 36 | 78 | 21 | 99 | 108 | 6 | 2 to 1 |
| 78 | 7 1/2 | * 24 - ** 36 | 78 | 21 | 99 | 114 | 6 1/2 | 2 to 1 |
| 84 | 8 | 36 | 90 1/2 | 21 | 111 1/2 | 120 | 6 1/2 | 1 1/2 to 1 |
| 90 | 8 1/2 | 41 | 87 1/2 | 24 | 111 1/2 | 132 | 6 1/2 | 1 1/2 to 1 |

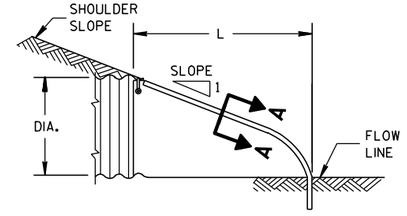
*MINIMUM
**MAXIMUM




PLAN VIEW

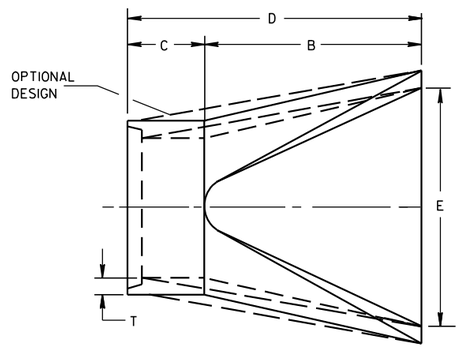



END VIEW

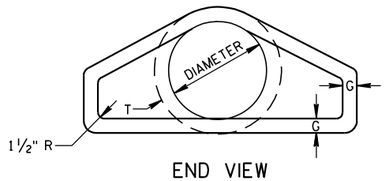



SIDE ELEVATION

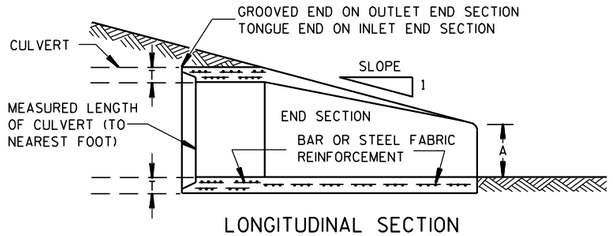
## METAL ENDWALLS




PLAN

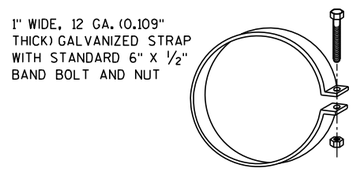



END VIEW



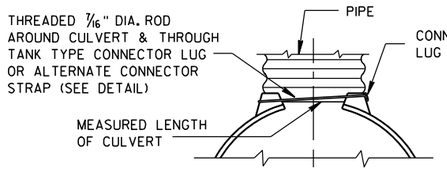

LONGITUDINAL SECTION

## CONCRETE ENDWALLS

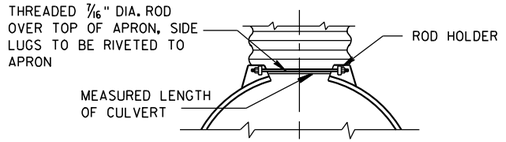



ALTERNATE FOR TYPE 1 CONNECTION

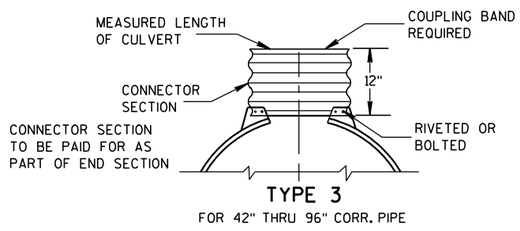
## END SECTION CONNECTOR STRAP



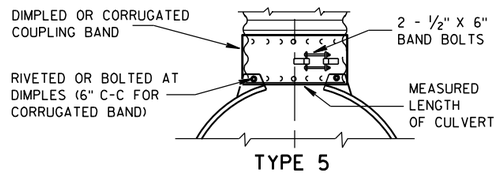

TYPE 1
FOR 12" THRU 24" CORR. PIPE




TYPE 2
FOR 30" THRU 96" CORR. PIPE




TYPE 3
FOR 42" THRU 96" CORR. PIPE




TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

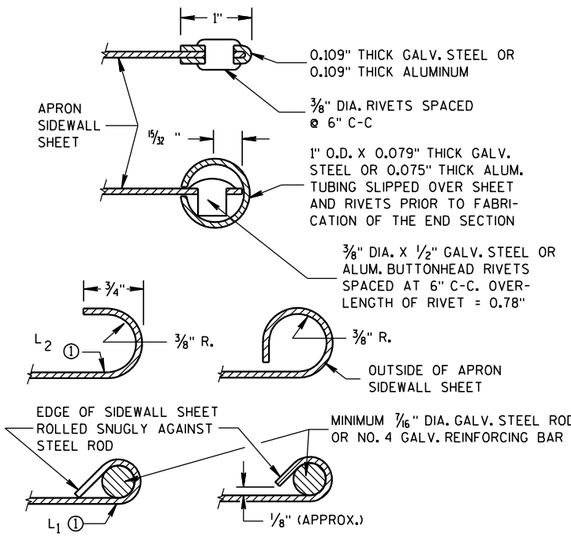
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

## CONNECTION DETAILS




## SECTION A-A

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

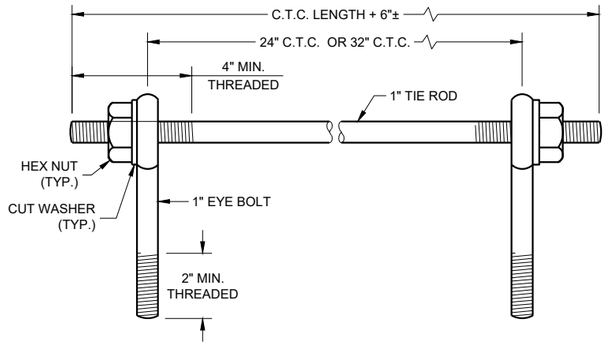
# APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

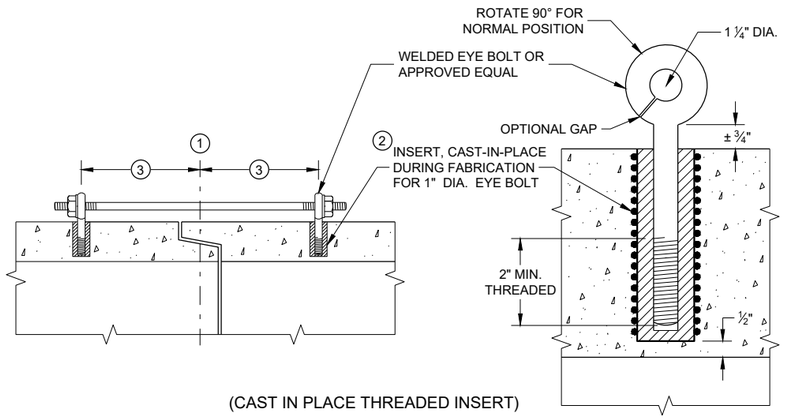
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA




6
S.D.D. 8 F 1-11




**EYE BOLTS AND TIE ROD**




(CAST IN PLACE THREADED INSERT)

**LONGITUDINAL SECTIONS**

## EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

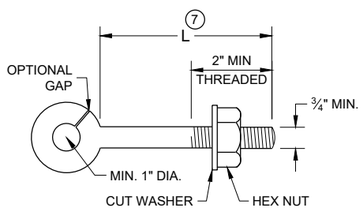
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

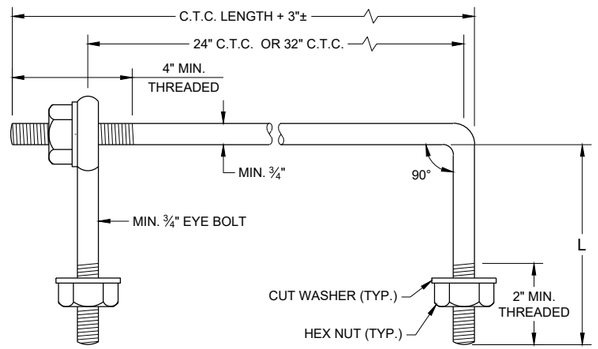
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

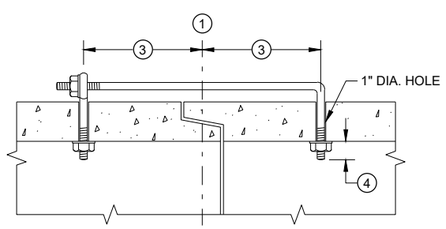



**EYE BOLT** (7)

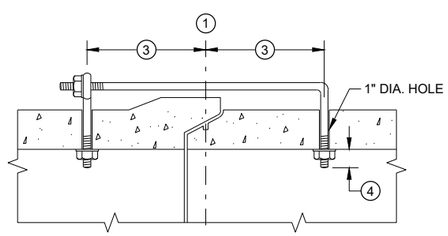
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.




**EYE BOLT AND TIE ROD**




(TONGUE AND GROOVE PIPE)




(MODIFIED BELL PIPE)

**LONGITUDINAL SECTION**

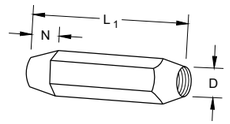
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

## EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

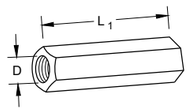
ADJUSTABLE TIE ROD TABLE

| PIPE DIAMETER | TIE ROD DIAMETER | D | $L_1$ | N |
|---|---|---|---|---|
| 12 - 60 | ⅝ | ⅝ | 5 | ½ |
| 66 - 84 | ¾ | ¾ | 5 | ½ |
| 90 - 144 | 1 | 1 | 7 | 1 7/16 |

DIMENSIONS SHOWN ARE IN INCHES



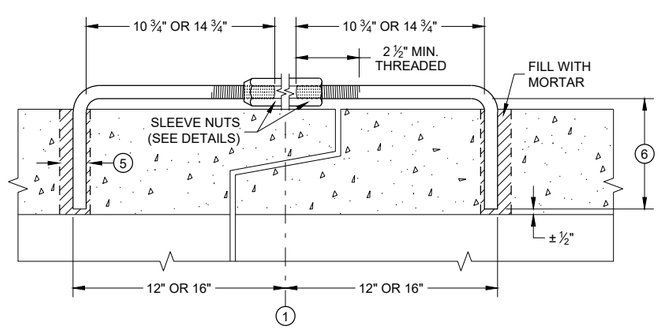

TAPERED




PLAIN

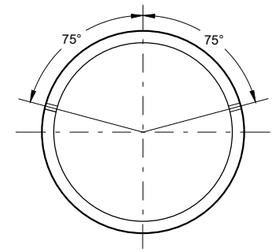
RIGHT AND LEFT THREADS

**SLEEVE NUTS**



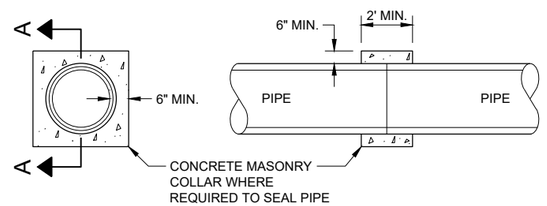

**LONGITUDINAL SECTION**

## ADJUSTABLE TIE ROD (ALTERNATE NO. 3)




PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

**TRANSVERSE SECTION**




**SECTION A - A**

## CONCRETE COLLAR DETAIL

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

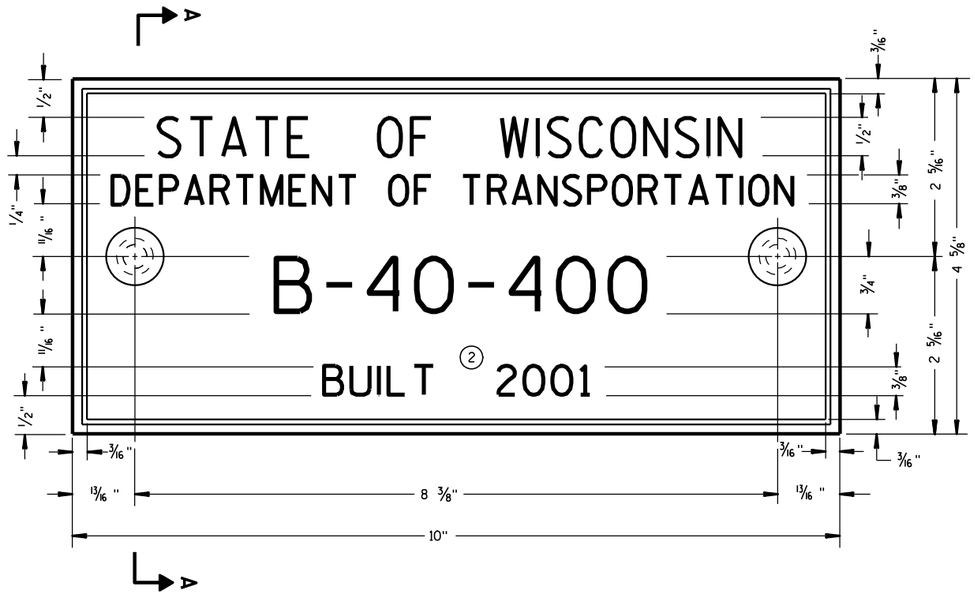
APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA



SDD 08F04 - 08

SDD 08F04 - 08




**TYPICAL NAME PLATE**
(BRIDGES, CULVERTS, AND RETAINING WALLS)

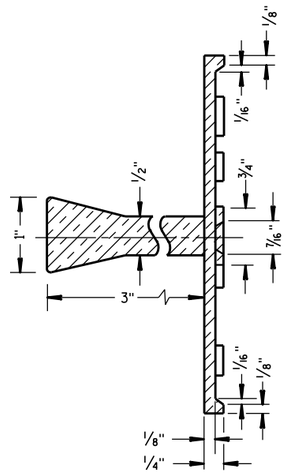
## GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

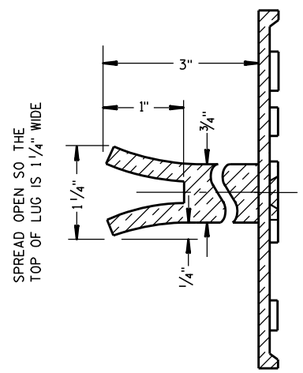
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.




**SECTION A-A**




**ALTERNATE LUG**

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

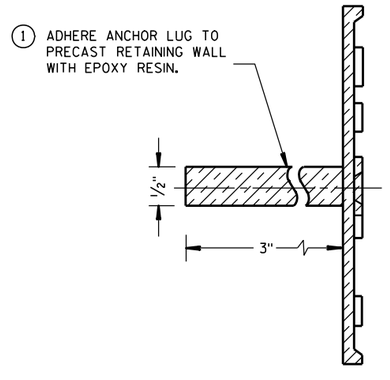
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

**NUMBERING DESIGNATION**
**MULTI-UNIT STRUCTURES**




**ALTERNATE LUG**
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE (STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

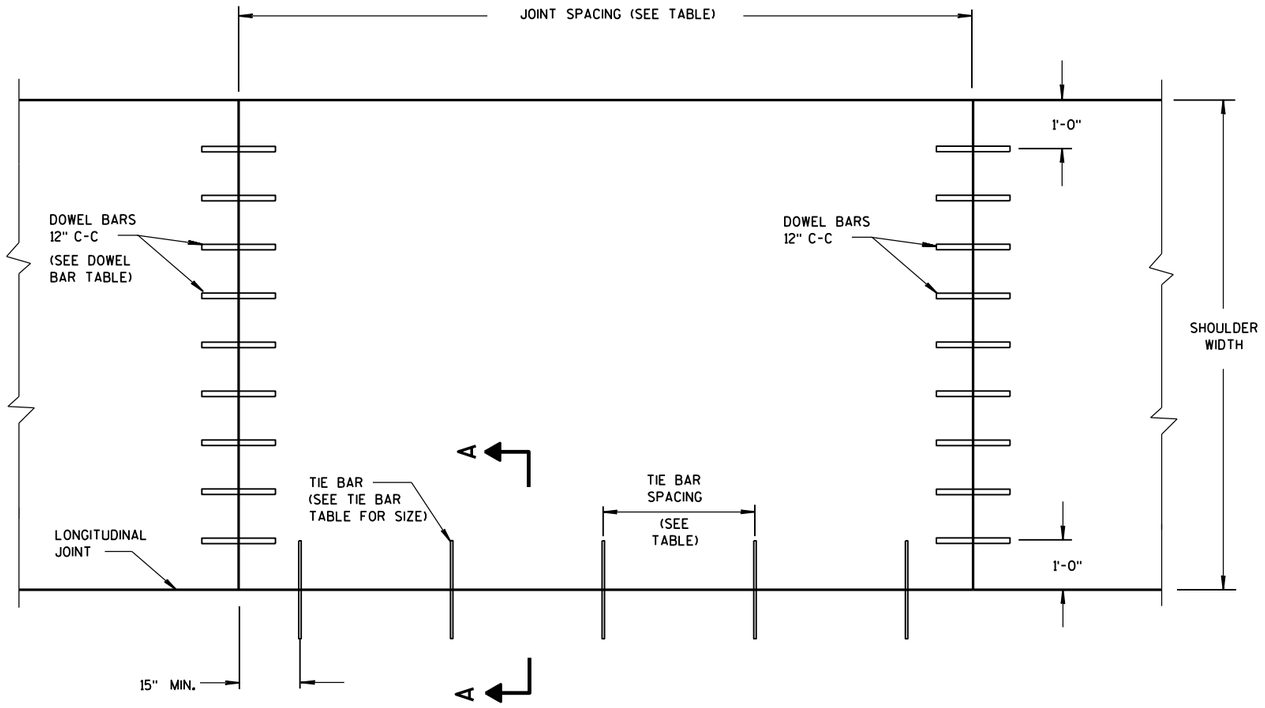
/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA



6

S.D.D. 12 A 3-10




PLAN VIEW

## CONCRETE PAVEMENT SHOULDER

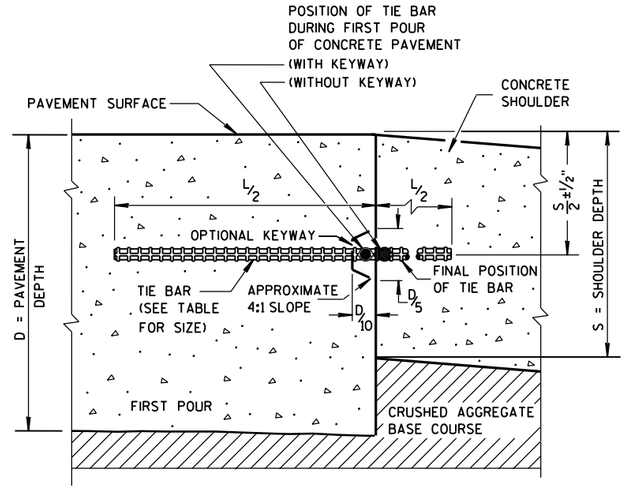
## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.




SECTION A-A

## LONGITUDINAL CONSTRUCTION JOINT

### TIE BAR TABLE

| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|---|---|---|---|
| < 10 ½" | NO. 4 | 30" | 36" |
| ≥ 10 ½" | NO. 5 | 36" | 36" |
| | NO. 4* | 30" | 24"** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

### PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

| PAVEMENT DEPTH (D) | DOWEL BAR DIAMETER*** | CONTRACTION JOINT SPACING |
|---|---|---|
| 5 ½", 6", 6 ½" | NONE | 12' |
| 7", 7 ½" | 1" | 14' |
| 8", 8 ½" | 1 ¼" | 15' |
| 9", 9 ½" | 1 ¼" | 15' |
| 10" & ABOVE | 1 ½" | 15' |

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPEF
FHWA

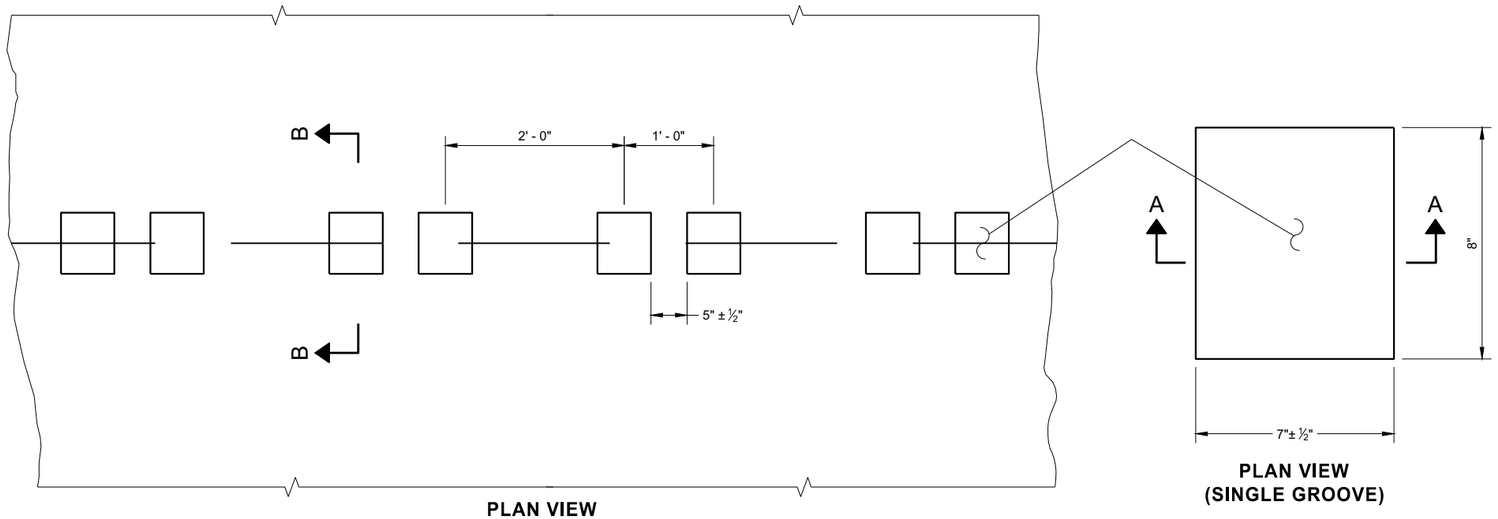


6

S.D.D. 13 A 3-6

6

S.D.D. 13 A 3-6




PLAN VIEW
SHOULDER WITH GROOVES




PLAN VIEW
(SINGLE GROOVE)

## PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

## GENERAL NOTES

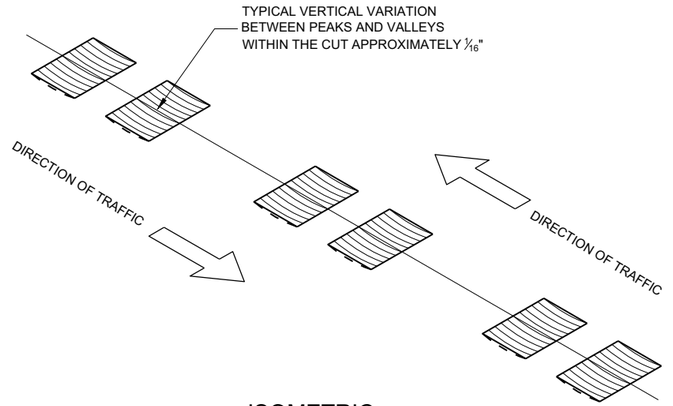
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

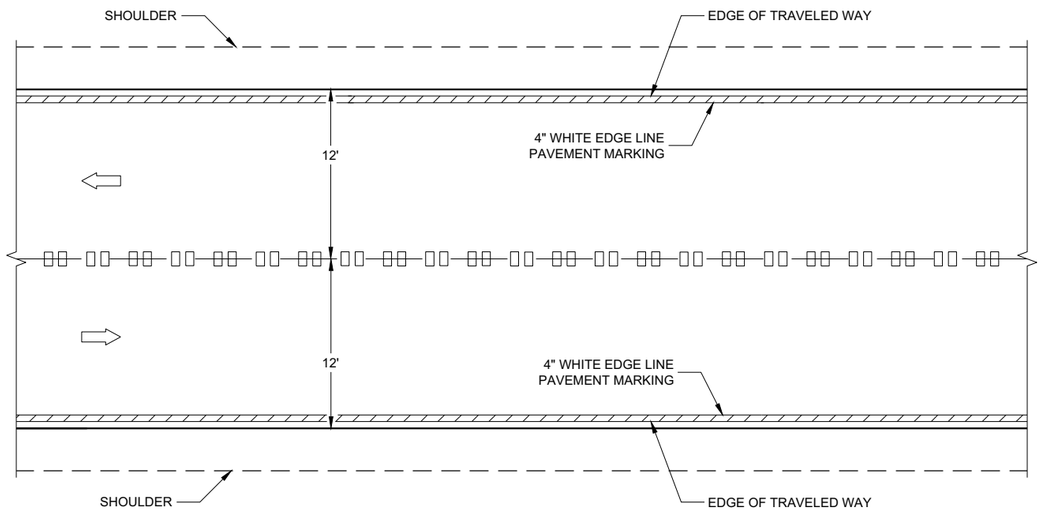
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

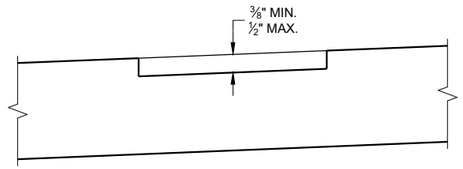
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



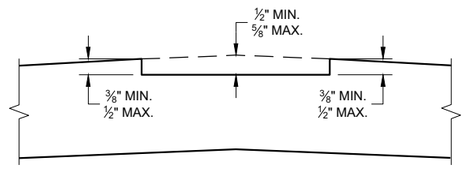

ISOMETRIC



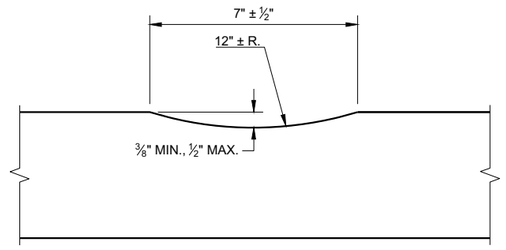

## CENTERLINE GROOVES ON TWO-WAY ROADWAYS




SECTION B - B
SUPERELEVATED ROADWAY




SECTION B - B
CROWNED ROADWAY




SECTION A - A

**2-LANE RURAL**
**CENTER LINE RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

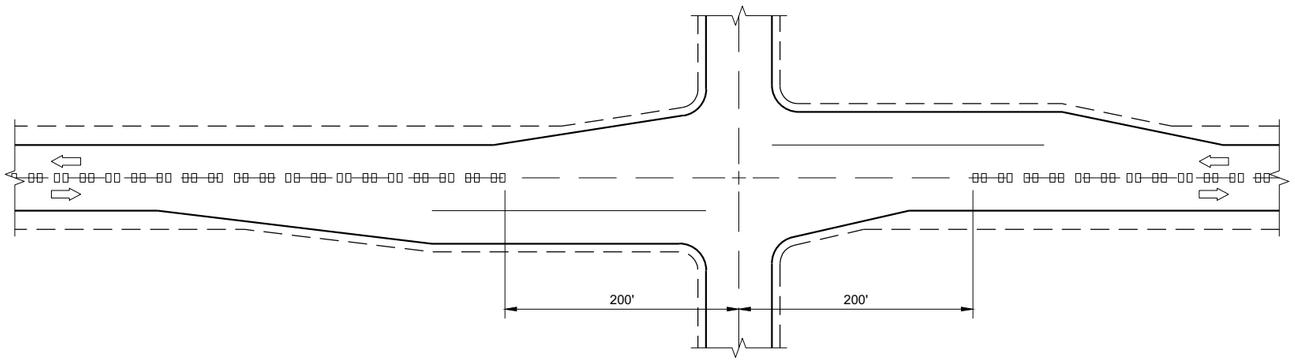


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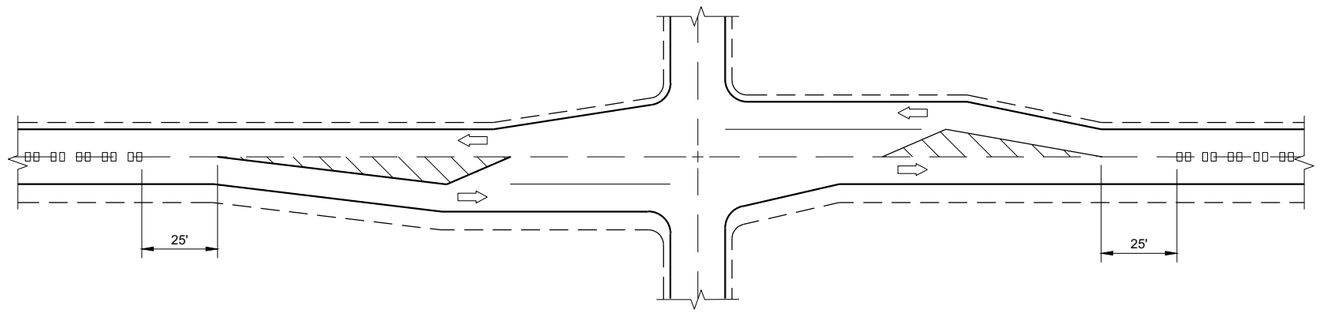
SDD 13A11 - 03a

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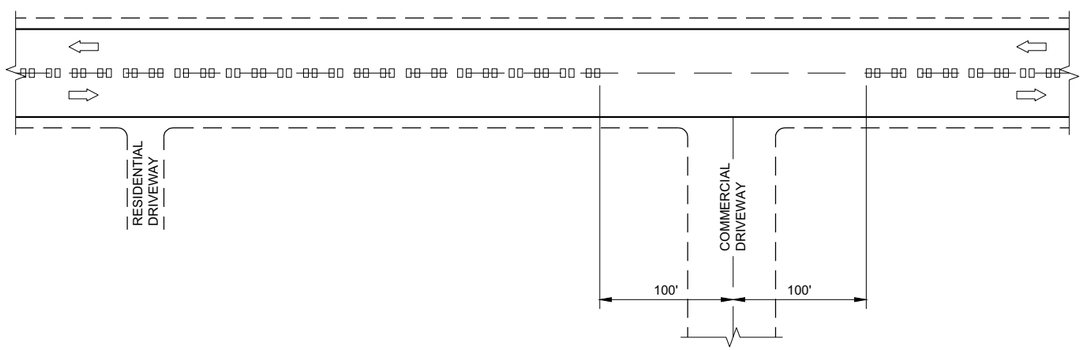
SDD 13A11 - 03a




## CENTERLINE GROOVES AT INTERSECTIONS



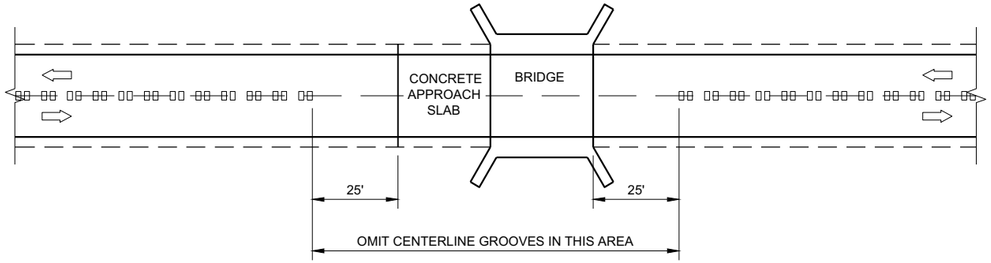

## CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



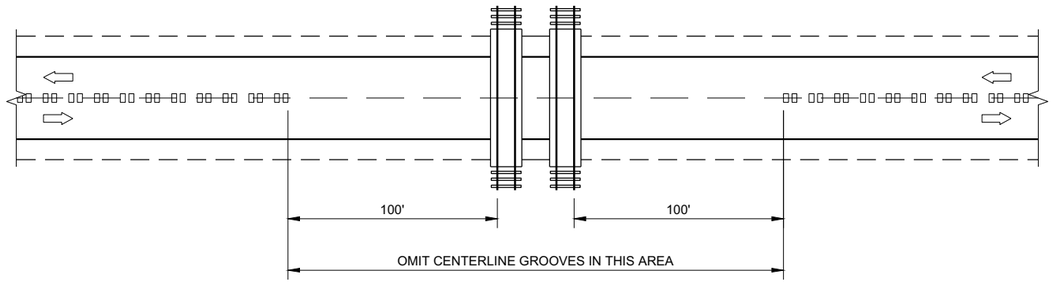

## CENTERLINE GROOVES AT DRIVEWAYS (1)

## GENERAL NOTES

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.




## CENTERLINE GROOVES AT BRIDGES




## CENTERLINE GROOVES AT RAILROADS

**2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
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7/2018
DATE

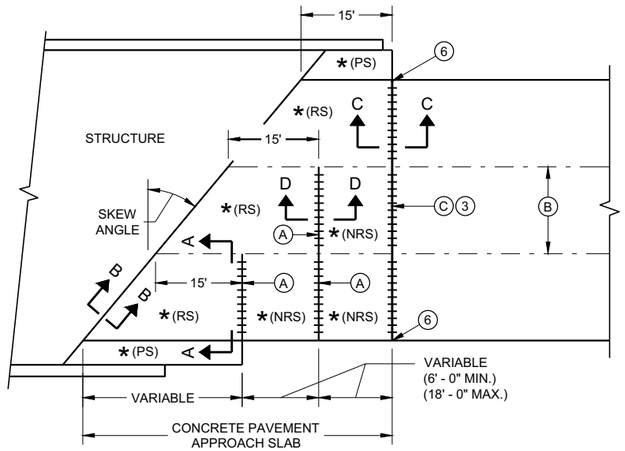
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

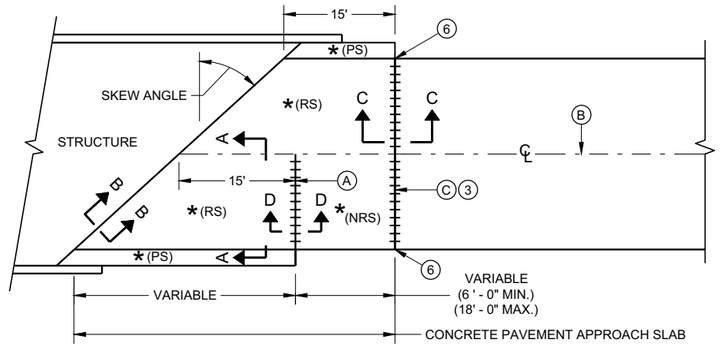




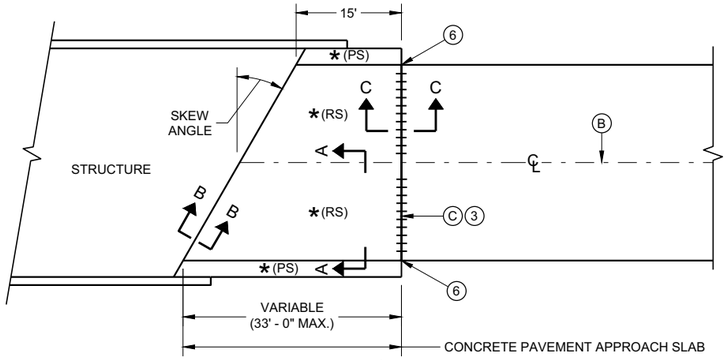
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SDD 13A11 - 03b




**SKEWED APPROACH**
**(PAVEMENT MORE THAN TWO LANES)**




**SKEWS > 20°**
**(PAVEMENT WIDTH ≤ 30')**




**SKEWS ≤ 20°**
**(PAVEMENT WIDTH ≤ 30')**

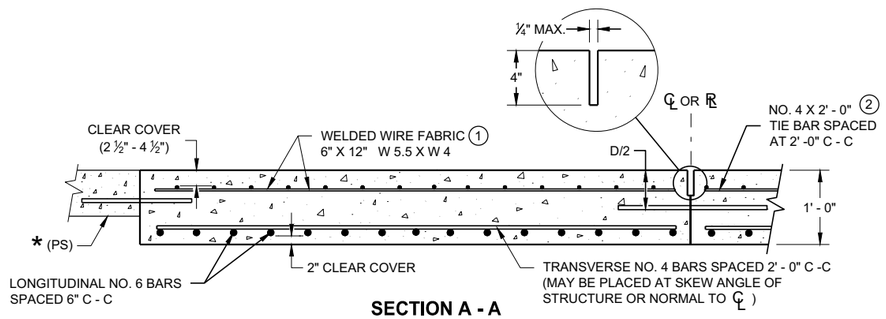
**APPROACH SLAB AND ADJACENT PAVEMENT**

* (RS) = REINFORCED CONCRETE SLAB

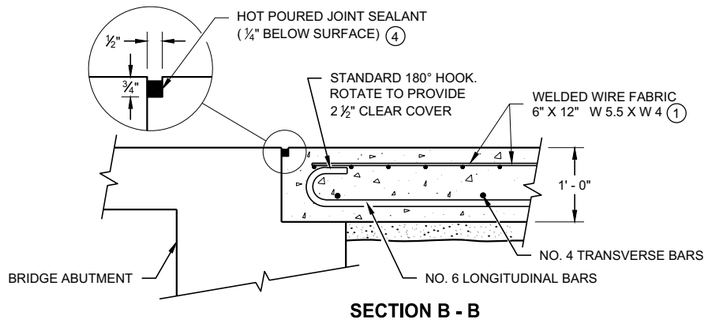
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

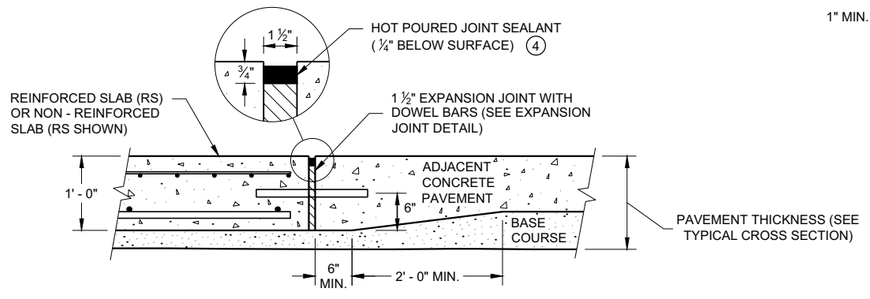
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)




**SECTION A - A**
**REINFORCEMENT POSITIONING DETAIL**




**SECTION B - B**
**BEND DETAIL**
**BOTTOM REINFORCEMENT**




**SECTION C - C**
**TRANSITION DETAIL**
**APPROACH SLAB TO ADJACENT PAVEMENT**

## GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

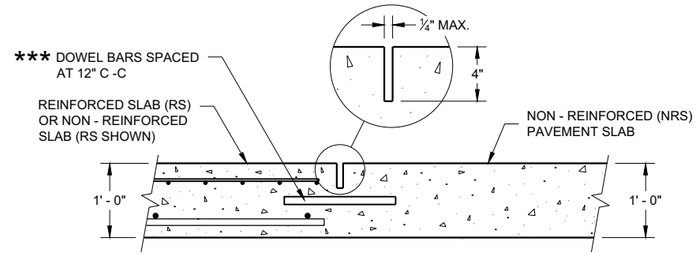
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

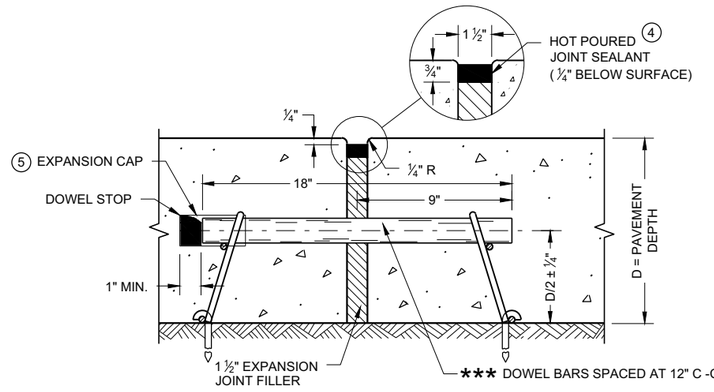
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .




**SECTION D - D**
**CONTRACTION JOINT**




**EXPANSION JOINT DETAIL**

**CONCRETE PAVEMENT APPROACH SLAB**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVIS

FHWA

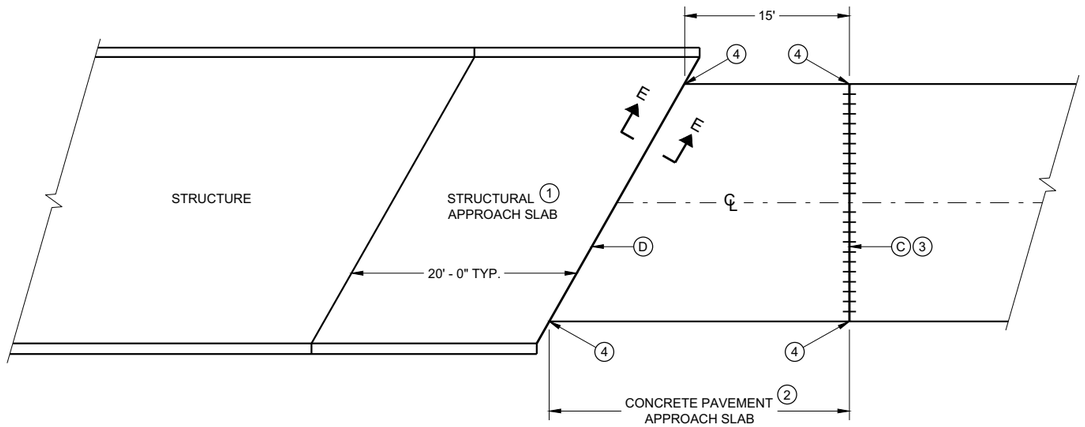




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SDD 13B02 - 09a




## BRIDGE APPROACHES

## GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

(1) SEE BRIDGE PLAN.

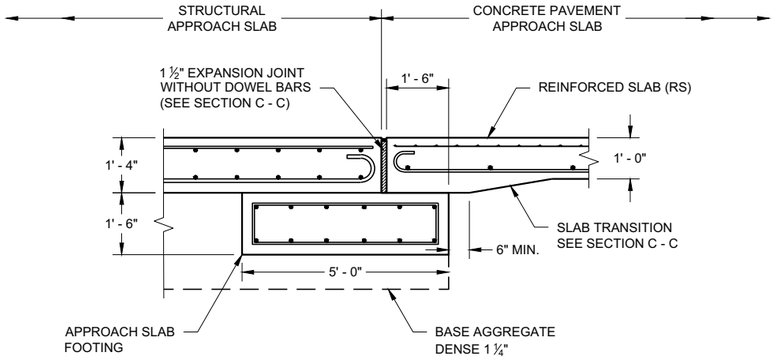
(2) CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞.

(D) 1 ½" EXPANSION JOINT (NO DOWELS)




**SECTION E - E**
**FOOTING DETAIL**
**STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH**

**STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB**

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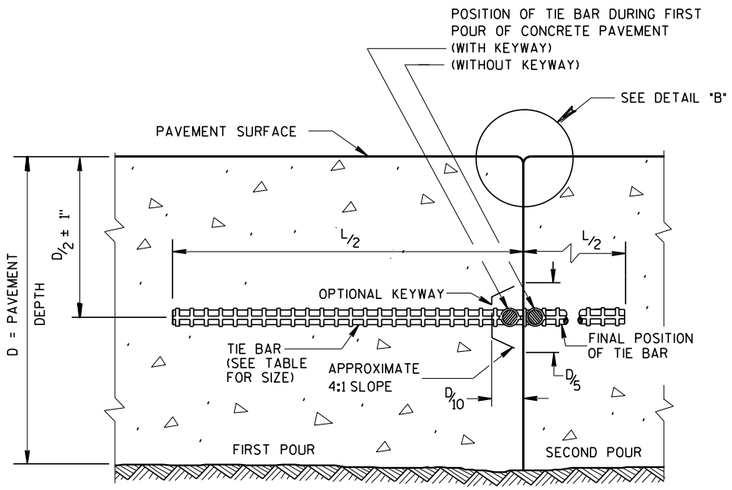
APPROVED
November 2018
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

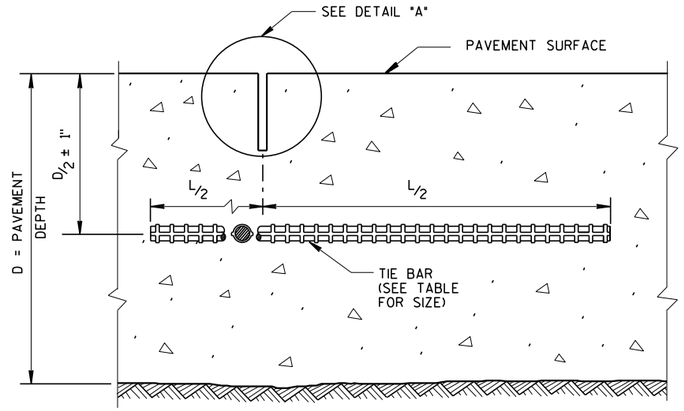



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SDD 13B02 - 09b




## CONSTRUCTION JOINT




## SAWED JOINT

## GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.




PLAN VIEW




SECTION A-A

## LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT




DETAIL "A"




DETAIL "B"




DETAIL "C"

## TIE BAR TABLE

| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|---|---|---|---|
| < 10 1/2" | NO. 4 | 30" | 36" |
| ≥ 10 1/2" | NO. 5 | 36" | 36" |
| | NO. 4 * | 30" | 24" ** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.




PLAN VIEW
SHOWING LOCATION OF TIE BARS

## CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

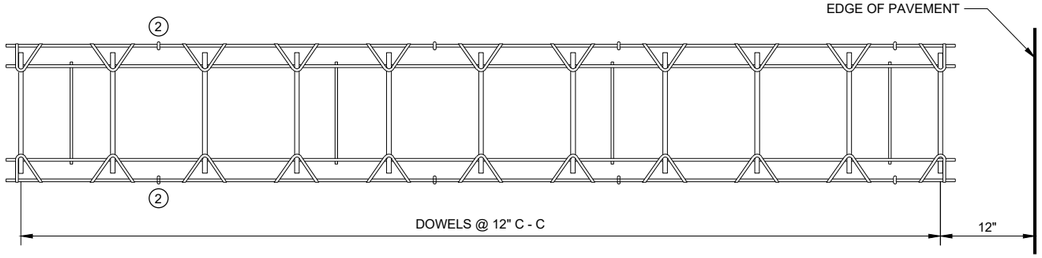
STATE OF WISCONSIN
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APPROVED
March 2018 — DATE
/S/ Peter Kemp PE — PAVEMENT SUPE
FHWA

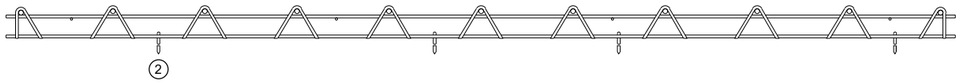



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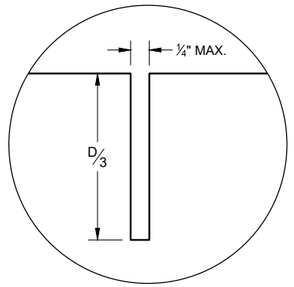



**PLAN VIEW**




**SIDE VIEW**

## CONTRACTION JOINT DOWEL ASSEMBLY (1)




**JOINT DETAIL**

## GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

(1) OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.

(2) SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

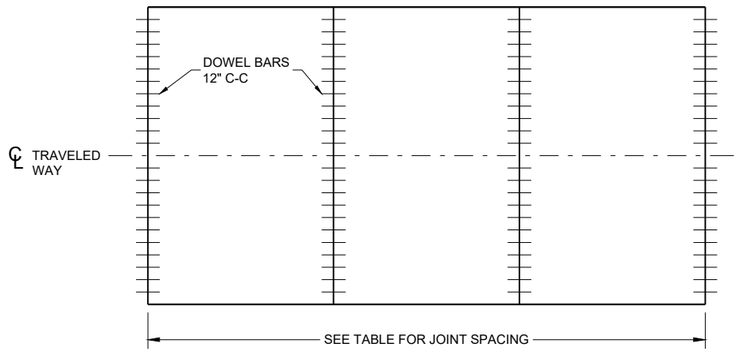
(3) FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼" RADIUS AT FORMED JOINTS.

(4) PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

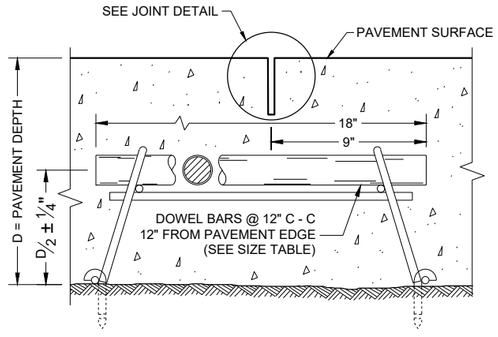
(5) INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.

(6) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

(7) ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



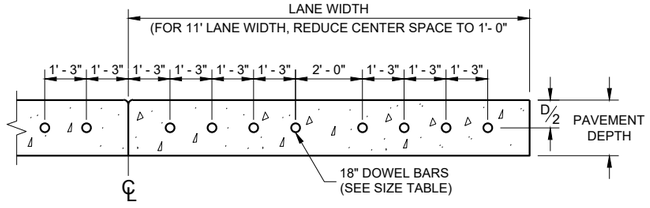

**CONTRACTION JOINT LOCATIONS**



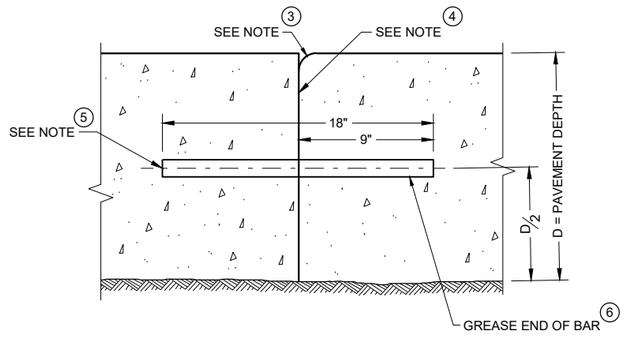

**DOWELED CONTRACTION JOINT**

### PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

| PAVEMENT DEPTH (D) | DOWEL BAR DIAMETER | CONTRACTION JOINT SPACING |
|---|---|---|
| 5 ½", 6", 6 ½" | NONE | 12' |
| 7", 7 ½" | 1" | 14' |
| 8", 8 ½" | 1 ¼" | 15' |
| 9" & ABOVE | 1 ¼" | 15' |




**DRILLED DOWEL BAR CONSTRUCTION JOINT (7)**




**TRANSVERSE CONSTRUCTION JOINT**

**URBAN DOWELED CONCRETE PAVEMENT**

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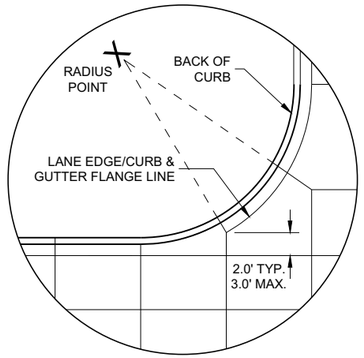
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

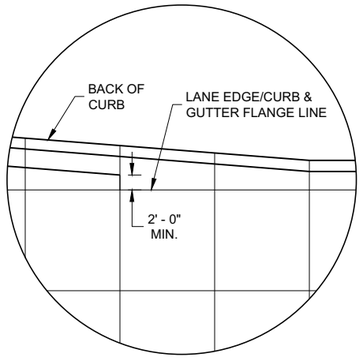



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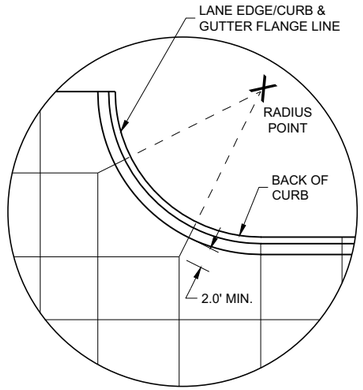

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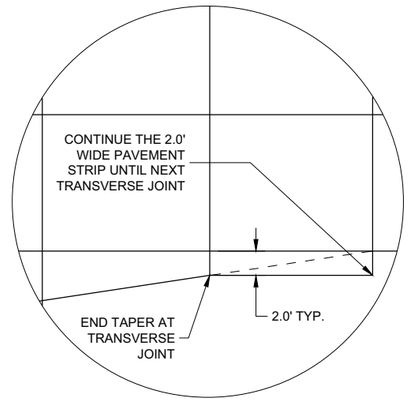

**DETAIL "A"**




**DETAIL "B"**




**DETAIL "C"**




**DETAIL "D"**

## GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

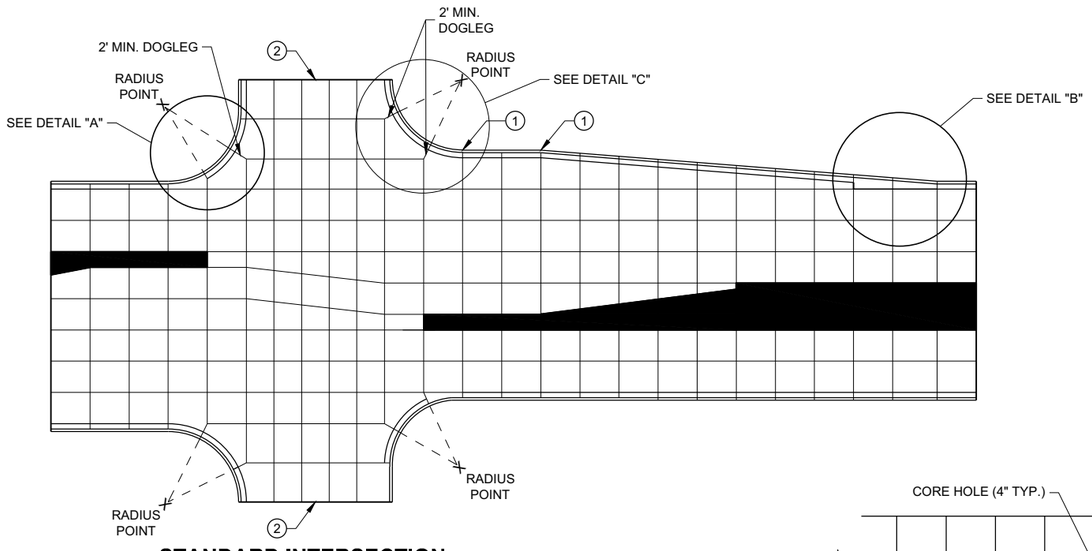
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITHEDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



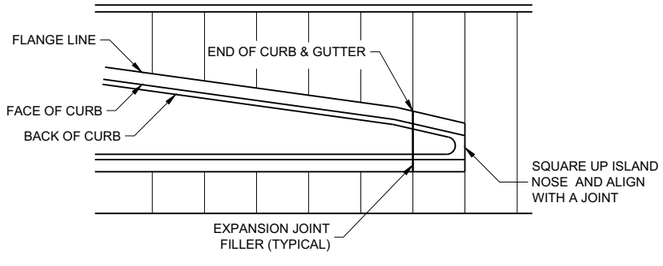

**STANDARD INTERSECTION**

PAVEMENT DEPTH AND JOINT SPACING TABLE

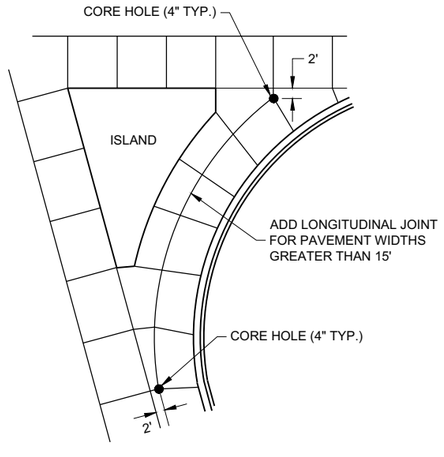
| PAVEMENT DEPTH (D) | CONTRACTION JOINT SPACING |
|---|---|
| 6", 6 ½" | 12' |
| 7", 7 ½" | 14' |
| 8" & ABOVE | 15' |




**SKEWED INTERSECTION**




**APPROACH TO MEDIAN**




**LARGE RIGHT TURN**

**CONCRETE PAVEMENT JOINTING**

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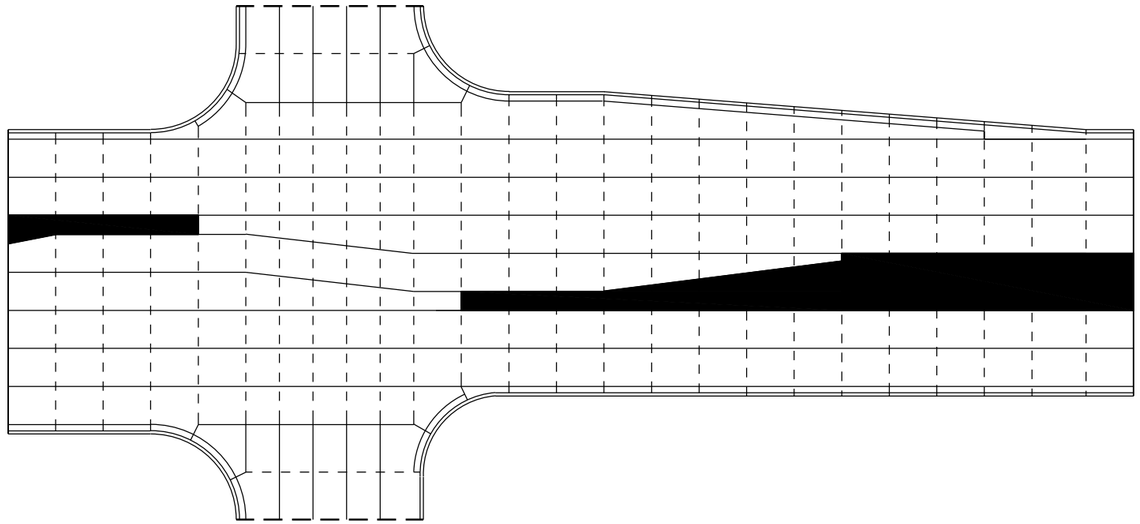
SDD 13C18 - 07a

## LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

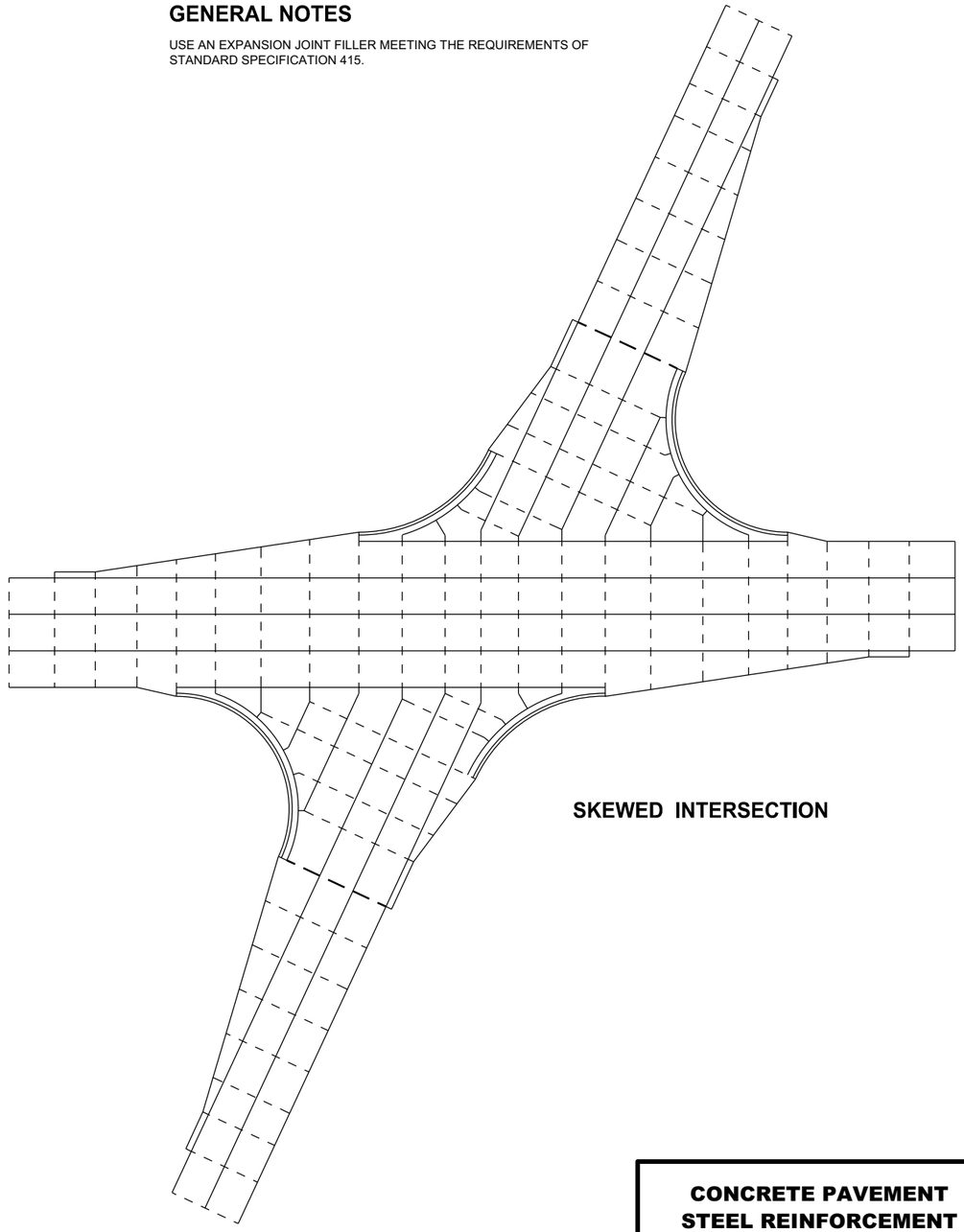
TIED JOINT



STANDARD INTERSECTION

## GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

6

SDD 13C18 - 07b

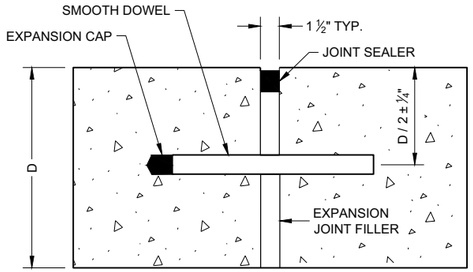
**CONCRETE PAVEMENT**
**STEEL REINFORCEMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

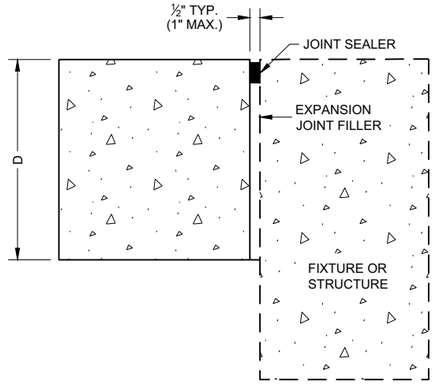


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SDD 13C18 - 07b




**DOWELED TRANSVERSE** (1)




**UNTIED - LONGITUDINAL**

## EXPANSION JOINTS

### TIE BAR TABLE

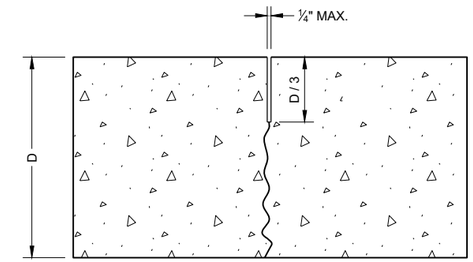
| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|---|---|---|---|
| < 10 ½" | NO. 4 | 30" | 36" |
| ≥ 10 ½" | NO. 5 | 36" | 36" |
| | NO. 4* | 30" | 24"** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

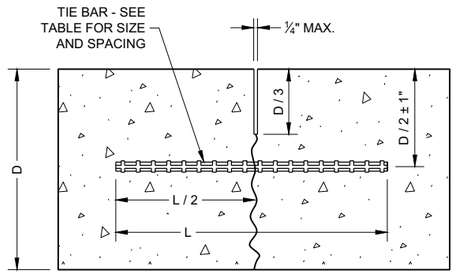
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

### GENERAL NOTES

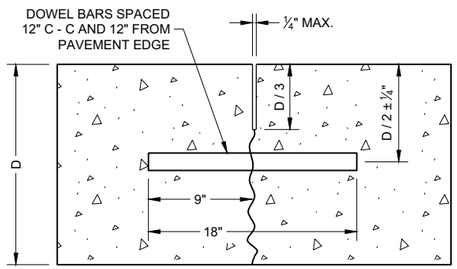
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.




**UNDOWELED TRANSVERSE**

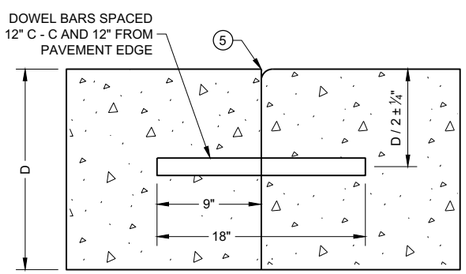



**TIED LONGITUDINAL**

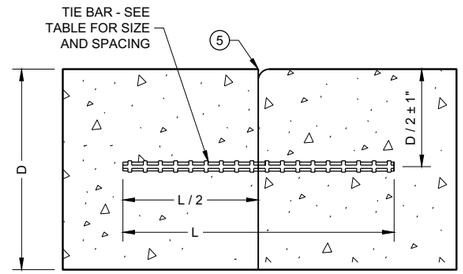



**DOWELED TRANSVERSE**

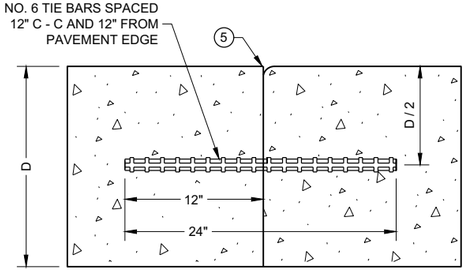
## CONTRACTION JOINTS (2)



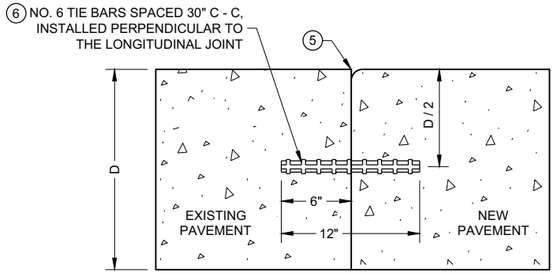

**DOWELED TRANSVERSE** (3)




**TIED LONGITUDINAL**




**TIED TRANSVERSE** (3)
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)




**TIED LONGITUDINAL TO EXISTING**

## CONSTRUCTION JOINTS (4)

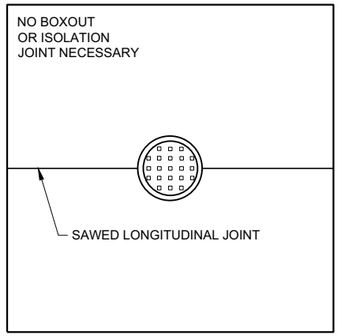
**CONCRETE PAVEMENT JOINT TYPES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

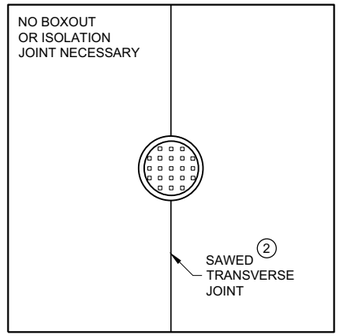



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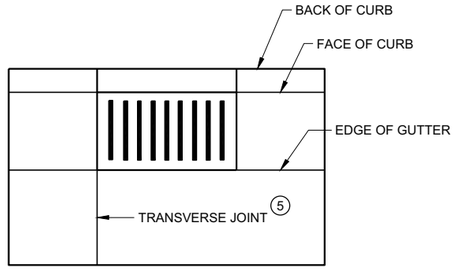

SDD 13C18 - 07c




**MANHOLE WITH LONGITUDINAL JOINT**



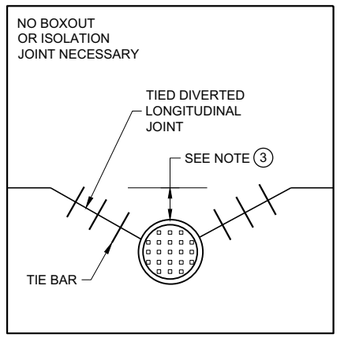

**MANHOLE WITH TRANSVERSE JOINT**



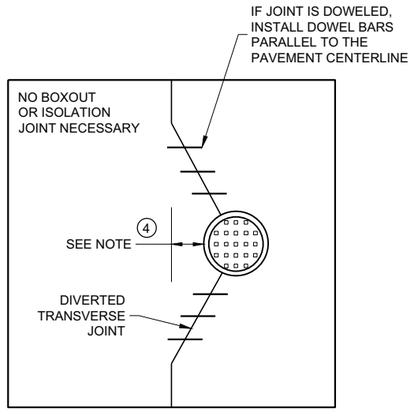

**INLET WITH TRANSVERSE JOINT**

## GENERAL NOTES

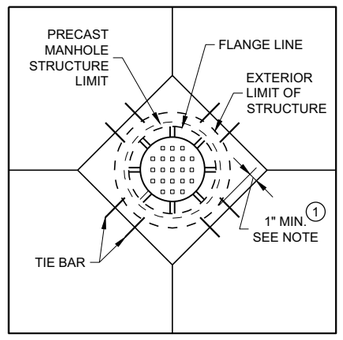
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
4. IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REINFORCEMENT REBAR AROUND THE MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.




**MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT**




**MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT**




**DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS**

**CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

FHWA

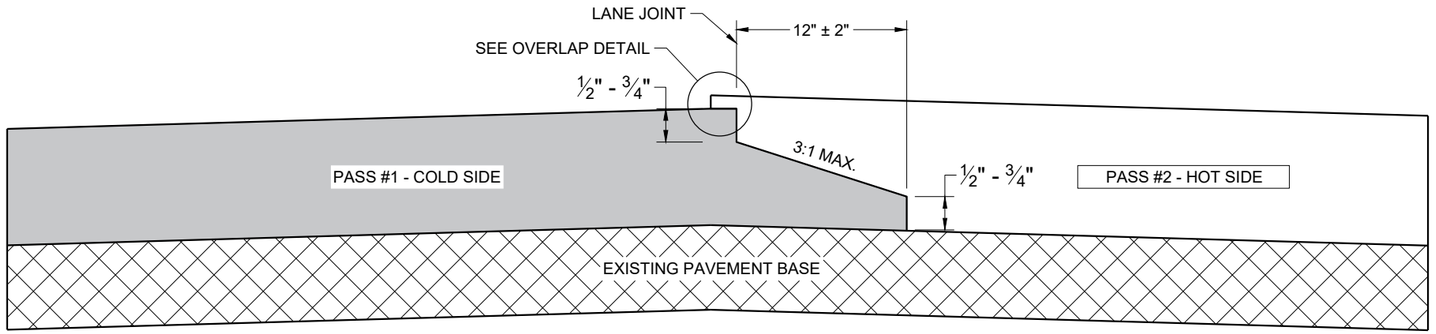


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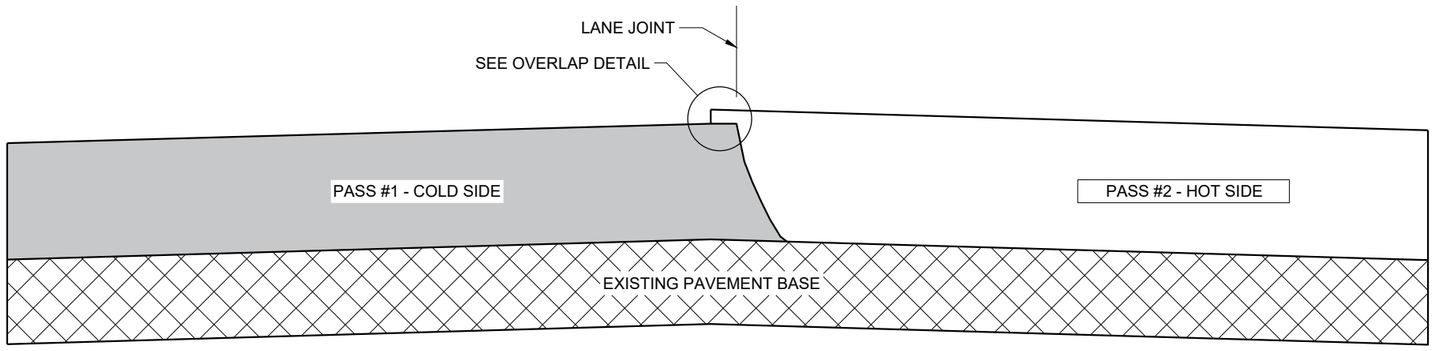
SDD13C18 - 07d

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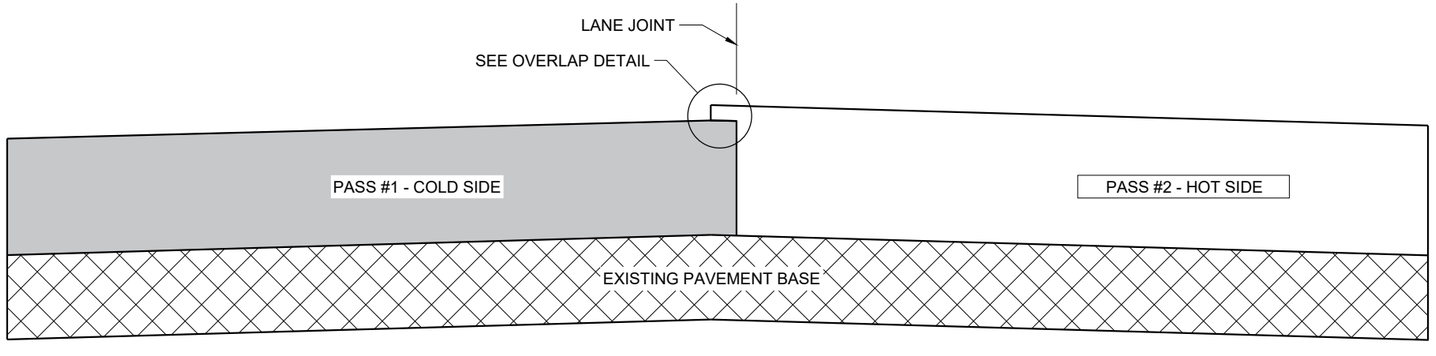
SDD13C18 - 07d




**TYPICAL PAVEMENT CROSS SECTION**
**NOTCHED WEDGE JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT (MILLED)**

## GENERAL NOTES

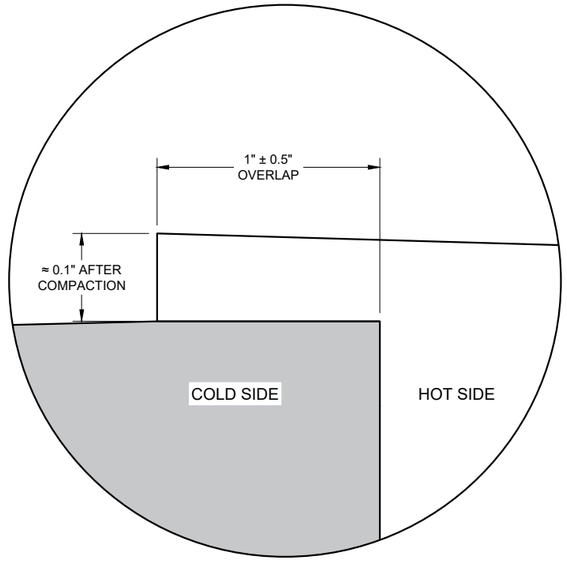
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.




**OVERLAP DETAIL (TYPICAL)**

6

6

SDD 13C19 - 03

SDD 13C19 - 03

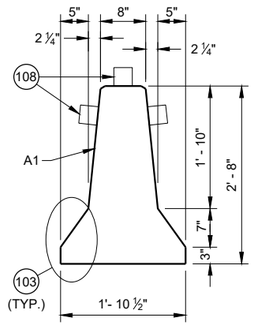
**HMA LONGITUDINAL JOINTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

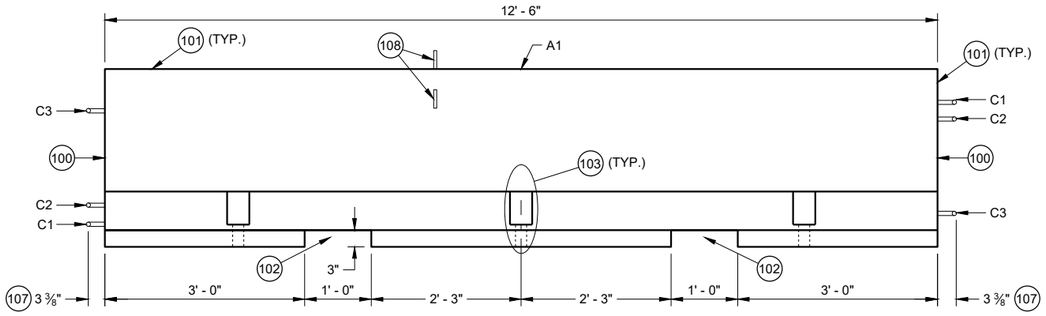
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA




**CROSS SECTION**




**PROFILE VIEW**

## GENERAL NOTES

PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

(100) PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:
- A. TYPE OF BARRIER: WI-CBTP
- B. MANUFACTURER
- C. DATE OF MANUFACTURE (MONTH AND YEAR)

(101) 1" OPTIONAL CHAMFER

(102) SEE LIFTING SLOT DETAIL

(103) SEE ANCHOR BLOCK DETAIL

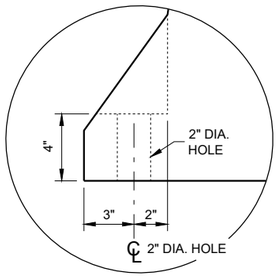
(104) 1 ¼" MIN. CLEAR COVER

(105) 2" MIN. CLEAR COVER

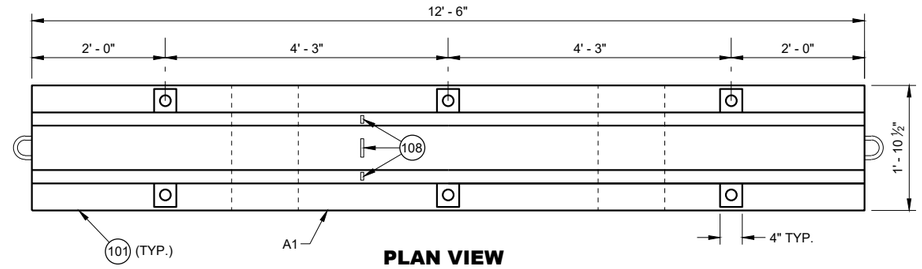
(106) 1" MIN. CLEAR COVER

(107) ± ⅛" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)

(108) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURERS INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED LEFT OF TRAFFIC AND WHITE WHEN BARRIER IS LOCATED RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART, PROVIDE TO MOUNTED DELINEATORS IN ADDITION TO SIDE MOUNTED DELINEATORS ON BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAT 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

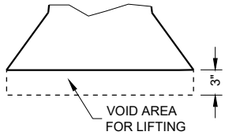



**ANCHOR BLOCK DETAIL**

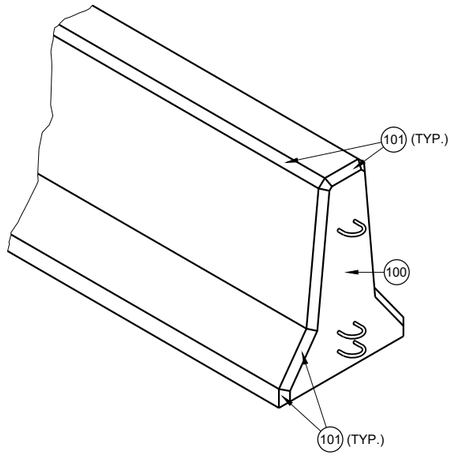


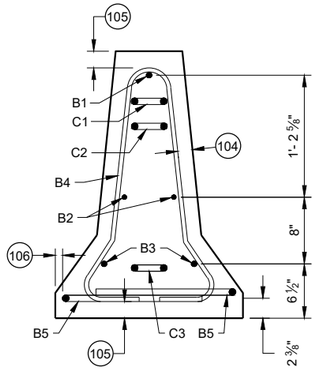

**PLAN VIEW**

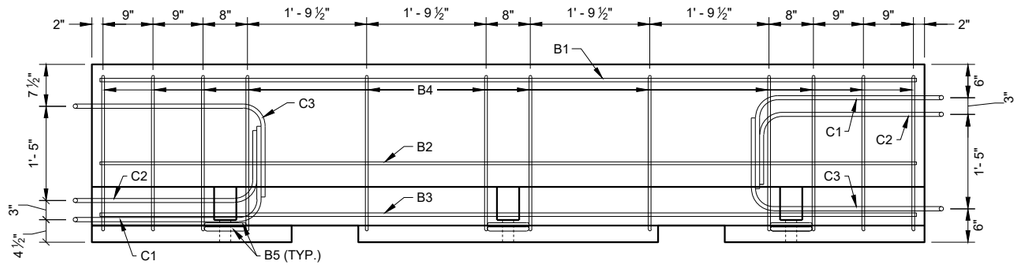
**TEMPORARY BARRIER**




**LIFTING SLOT DETAIL (TYP.)**




**PROFILE VIEW**

**TEMPORARY BARRIER REINFORCEMENT**

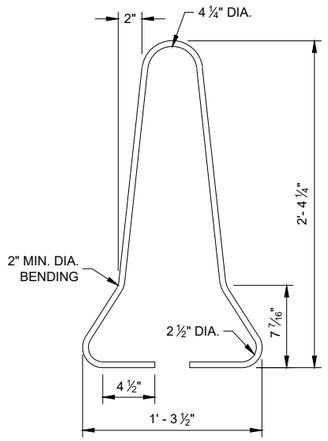
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

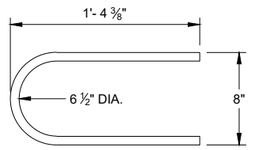




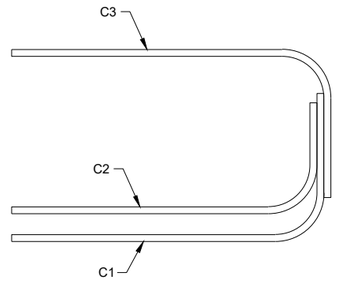
6
SDD 14B07-16a




**B4 BAR DETAIL**

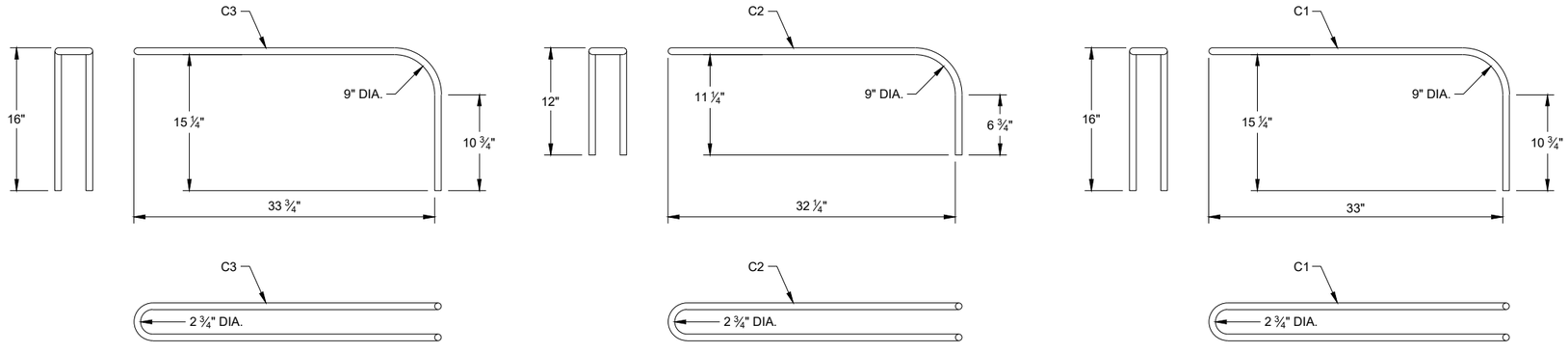



**B5 BAR DETAIL**




**PROFILE VIEW**

**LOOP BAR ASSEMBLY**




**C BAR DETAILS**

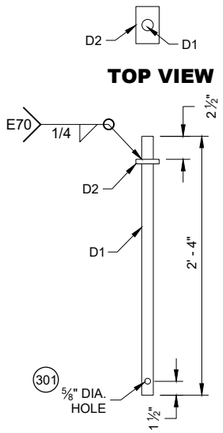
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




6

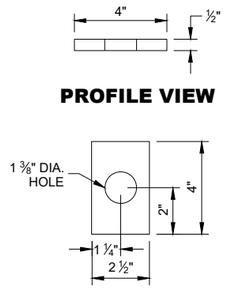

SDD 14B07-16b




**TOP VIEW**

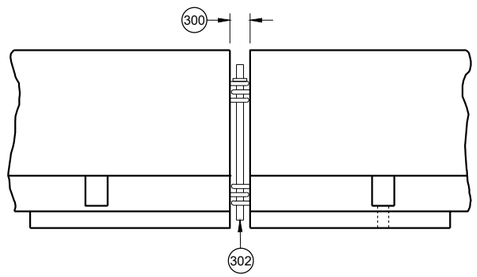
**PROFILE VIEW**

**CONNECTOR PIN ASSEMBLY**




**PROFILE VIEW**

**TOP VIEW D2**




**CONNECTING TEMPORARY BARRIER SECTIONS**

## GENERAL NOTES

300 SET WITH 3 ⅝" WOOD BLOCK.

301 HOLE IS OPTIONAL.

302 CONNECTOR PIN ASSEMBLY.

303 CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.

304 CONCRETE DECK.

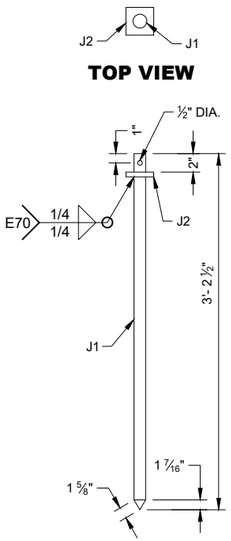
305 DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.

306 MINIMUM OF 2" OF ASPHALT.

307 ASPHALT ANCHOR PIN ASSEMBLY

308 IF DRILLING A PILOT HOLE, THE MAX, DIA. OF THE HOLE IS 3/4"

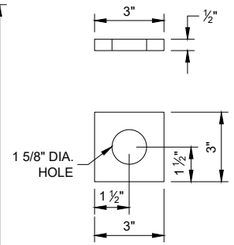
309 WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.



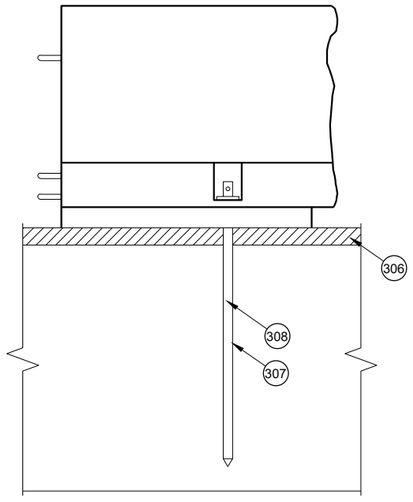

**TOP VIEW**

**PROFILE VIEW**

**ASPHALT ANCHOR PIN ASSEMBLY**

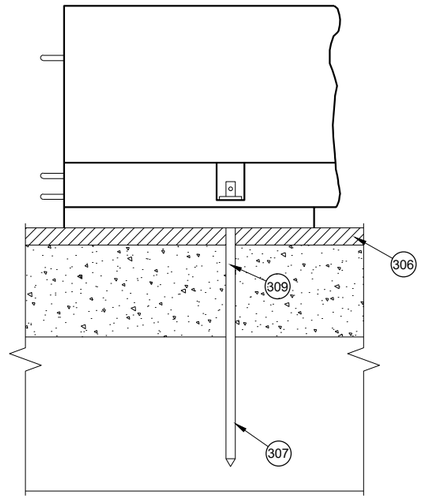



**TOP VIEW J2**



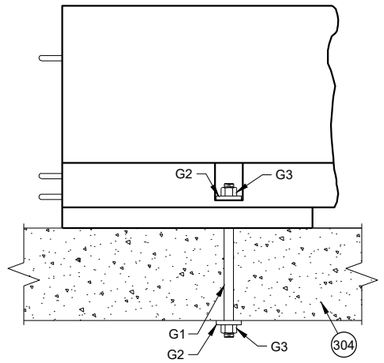

**SIDE VIEW**

**ASPHALT ANCHOR INSTALLATION THROUGH ASPHALT PAVEMENT**



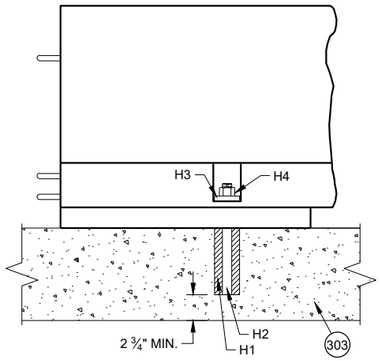

**SIDE VIEW**

**ASPHALT ANCHOR INSTALLATION THROUGH ASPHALT OVERLAY ON TOP OF CONCRETE PAVEMENT**




**SIDE VIEW**

**THROUGH BOLT ANCHOR INSTALLATION** (305)




**SIDE VIEW**

**ADHESIVE ANCHOR INSTALLATION** (305)

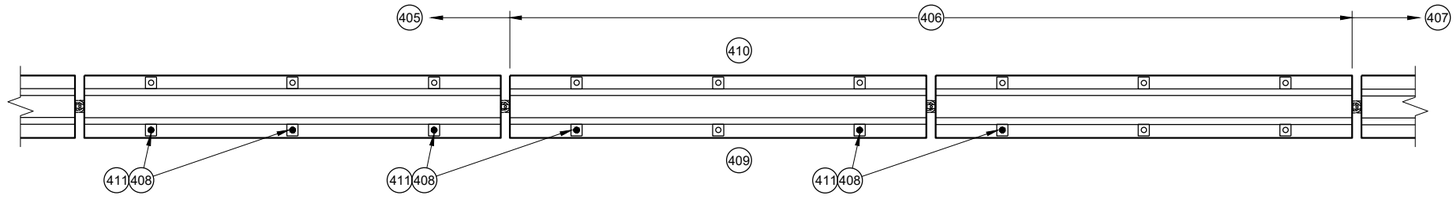
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



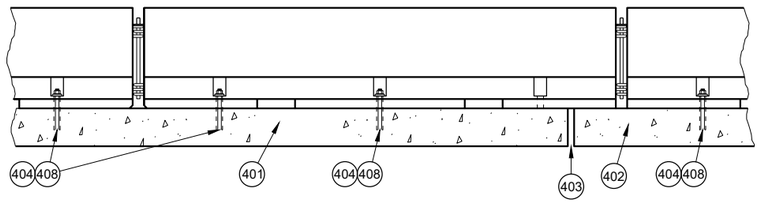


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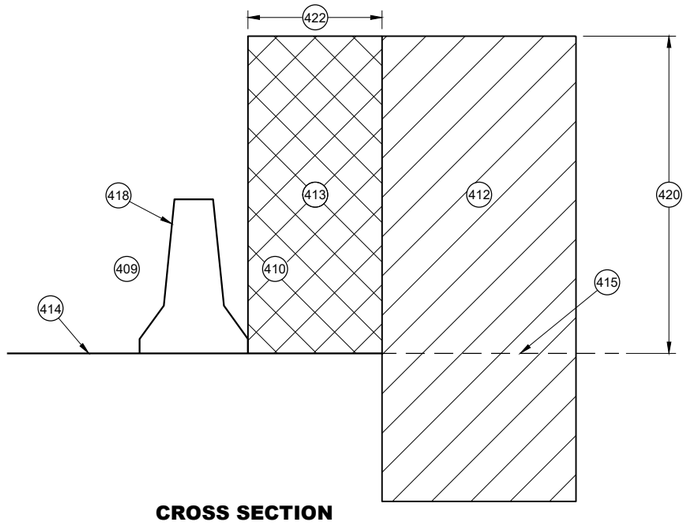

PLAN VIEW

## TRANSITION FROM FREE STANDING TO ANCHORED BARRIER



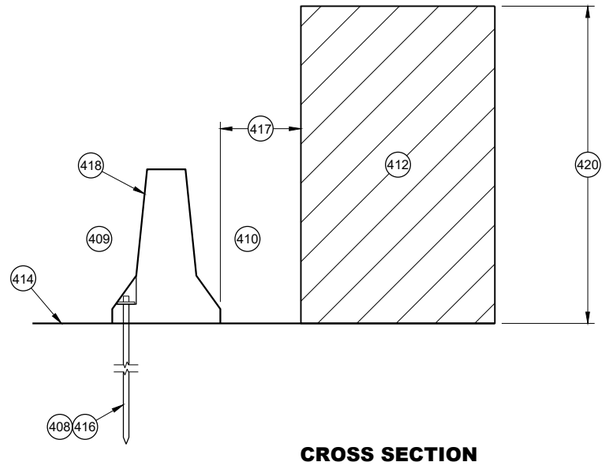

PROFILE VIEW

## ANCHORED BARRIER NEAR EXPANSION JOINT (400)



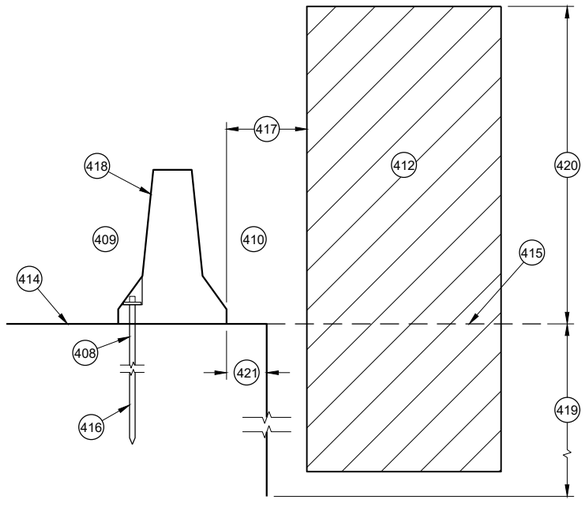

CROSS SECTION

## FREE STANDING BARRIER



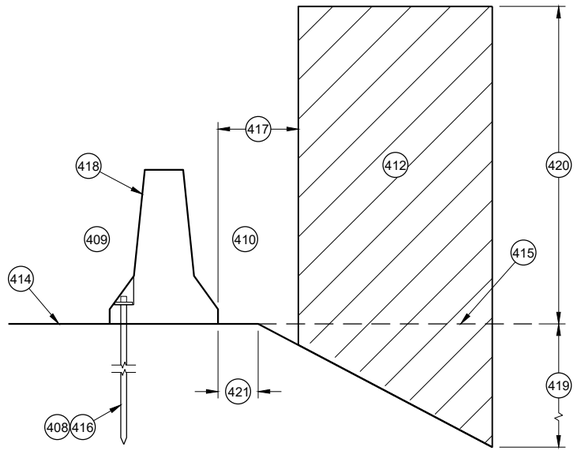

CROSS SECTION

## ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER




CROSS SECTION

## ANCHORED BARRIER NEAR VERTICAL DROP OFF




CROSS SECTION

## ANCHORED BARRIER NEAR A SLOPE

## GENERAL NOTES

(400) NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.

(401) CONCRETE DECK

(402) CONCRETE DECK OR APPROACH SLAB.

(403) EXPANSION JOINT

(404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.

(405) ANCHORED TEMPORARY BARRIER

(406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING

(407) FREE STANDING BARRIER

(408) REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(409) TRAFFIC SIDE

(410) NON-TRAFFIC SIDE

(411) ANCHOR LOCATION. SEE ANCHORING DETAILS.

(412) WORK AREA

(413) AREA FREE OF OBJECTS AND WORKERS

(414) GRADE LINE

(415) EXTENDED GRADE LINE

(416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.

(417) WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.

(418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.

(419) DEPTHS OF 3 FEET OR MORE.

(420) Y = 6.5'

(421) OFFSET FROM BACK OF BARRIER EDGE:

| | |
|---|---|
| CONCRETE PAVEMENT | 0.5' |
| ASPHALT | 0.5' |

(422) POSTED SPEED (MPH):

| | |
|---|---|
| 45 OR GREATER | 4.0' |
| 40 OR LOWER | 2.0' |

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION





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## GENERAL NOTES

(500) EXISTING RIGID BARRIERS (VARIES)

(501) TEMPORARY BARRIER

(502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).

(503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.

(504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

(505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.

(506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.

(507) VERTICAL BARRIER

(508) SAFETY SHAPE BARRIER

(509) SINGLE SLOPE BARRIER

(510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.

(511) BENT THRIE BEAM TO FIT.

(512) THRIE BEAM PIECES ARE OFFSET 15 ¼" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.

(513) TWO (2) P1, P2 AND P3 ARE REQUIRED

(514) FIVE (5) N1, N2 AND N3 ARE REQUIRED

(515) TWO (2) R1, R2 AND R3 ARE REQUIRED

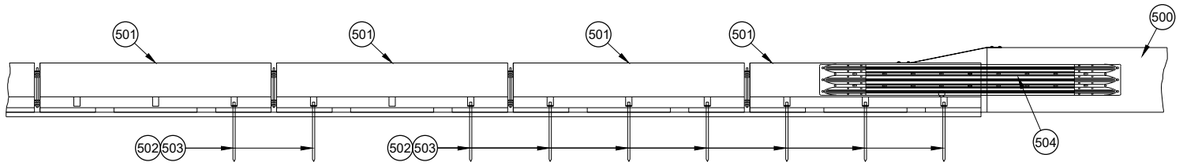
(516) CUT WOOD BLOCK TO FIT.

(517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.

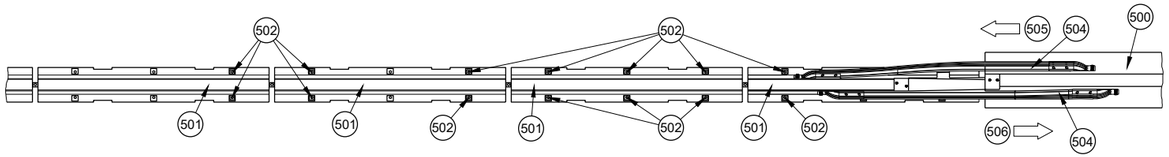
(518) CAP ASSEMBLY

(519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.

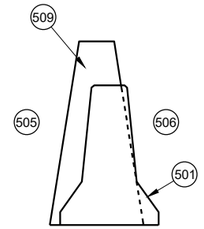
(520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



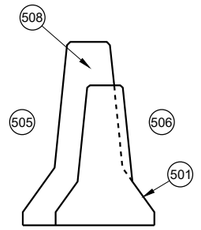

**PROFILE VIEW**



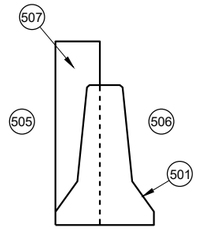

**PLAN VIEW**




**CROSS SECTION TEMPORARY BARRIER PLACEMENT SINGLE SLOPE**

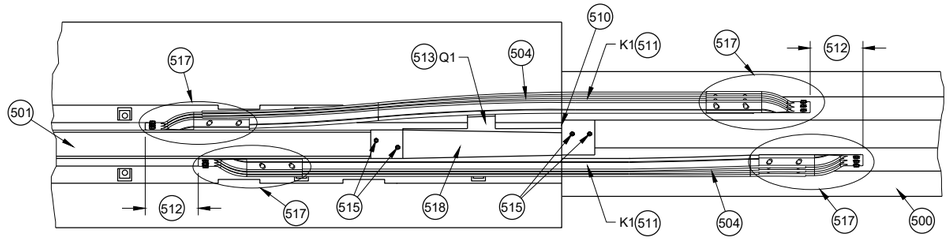



**CROSS SECTION TEMPORARY BARRIER PLACEMENT SAFETY SHAPE**

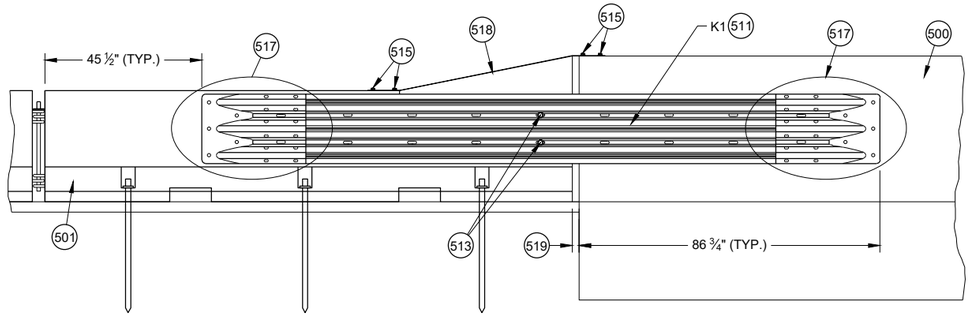



**CROSS SECTION TEMPORARY BARRIER PLACEMENT VERTICAL**

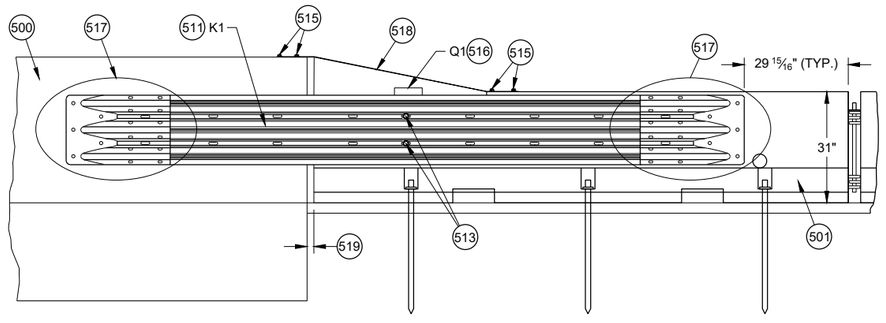
**PLAN VIEW**
**TRANSITION TO RIGID BARRIER**



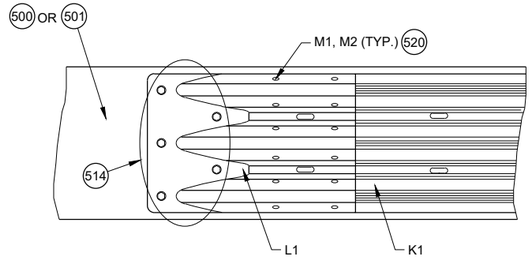

**PLAN DETAIL VIEW**
**TRANSITION TO RIGID BARRIER**




**FRONT DETAIL VIEW**
**TRANSITION TO RIGID BARRIER**




**BACK DETAIL VIEW**
**TRANSITION TO RIGID BARRIER**



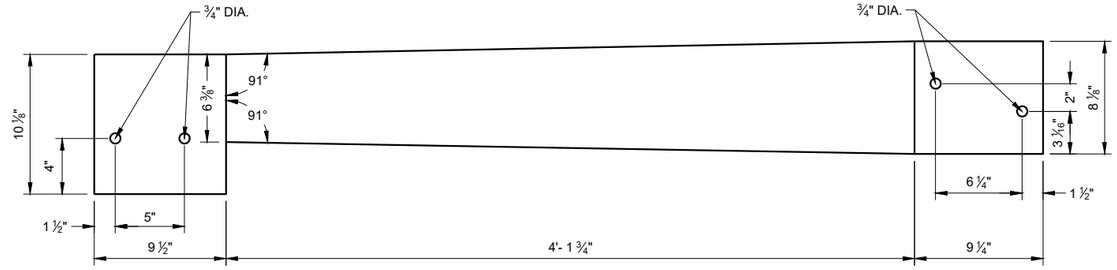

**(517) DETAIL PLAN VIEW**
**THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY**

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**



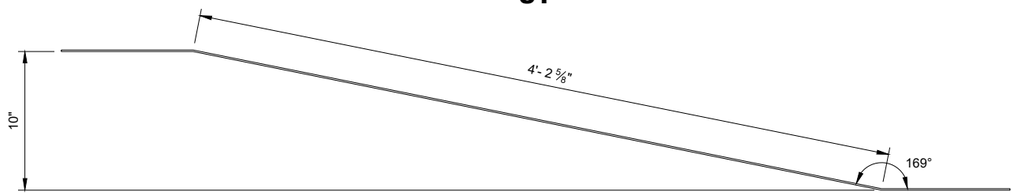

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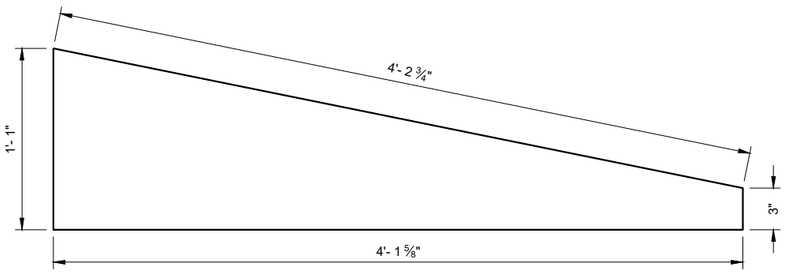

**TOP VIEW**

**S1**



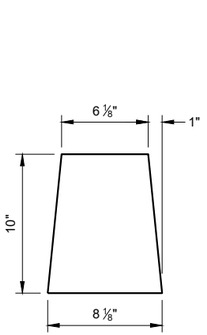

**ELEVATION VIEW**

**S1**

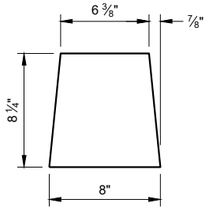



**SIDE VIEW**

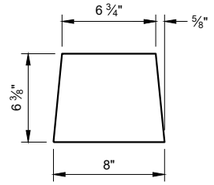
**S3**



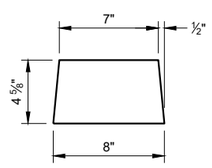

**S2**



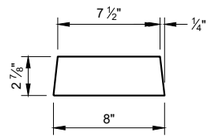

**S4**



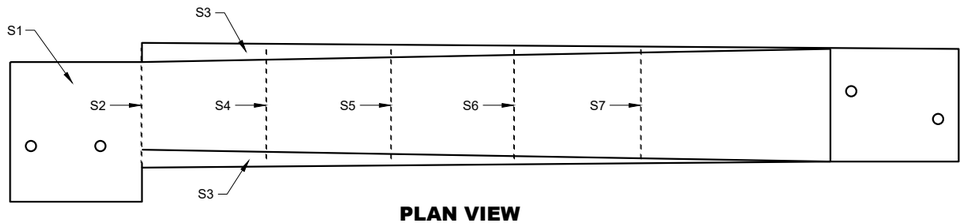

**S5**



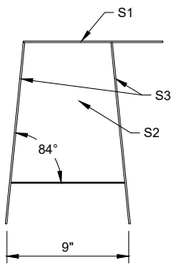

**S6**



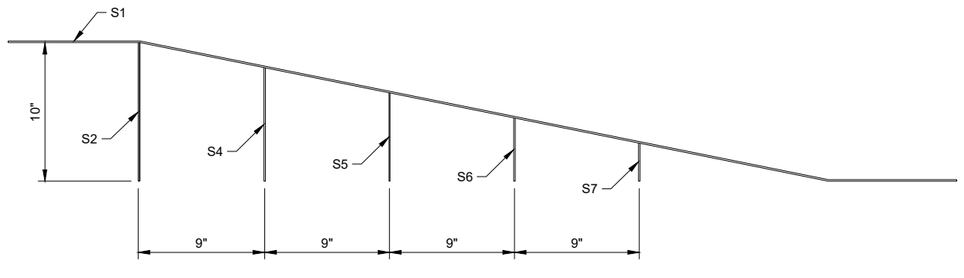

**S7**




**PLAN VIEW**




**BACK VIEW**




**SIDE VIEW** (600)

**42" TOP CAP ASSEMBLY**

**GENERAL NOTES**

STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
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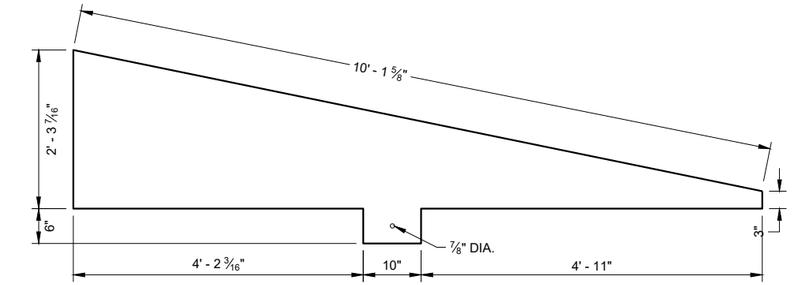






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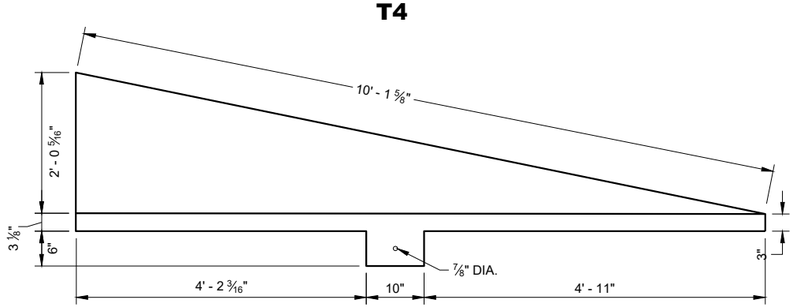
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**SIDE VIEW**
**T4**




**END VIEW**




**SIDE VIEW**
**T3**

**END VIEW**

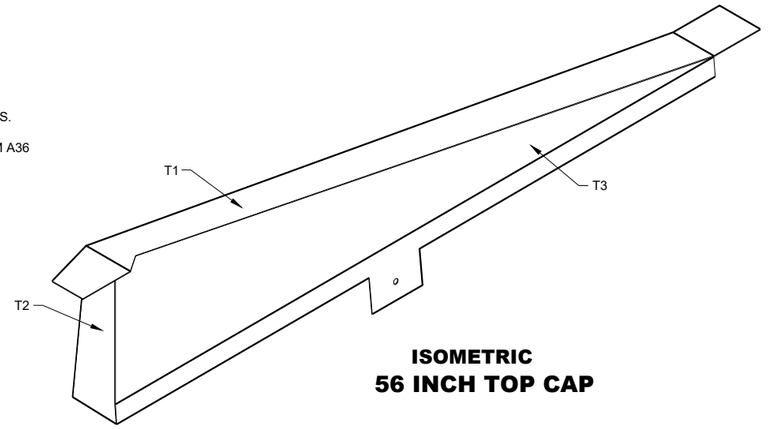
**GENERAL NOTES**

STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES

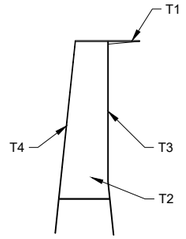
STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

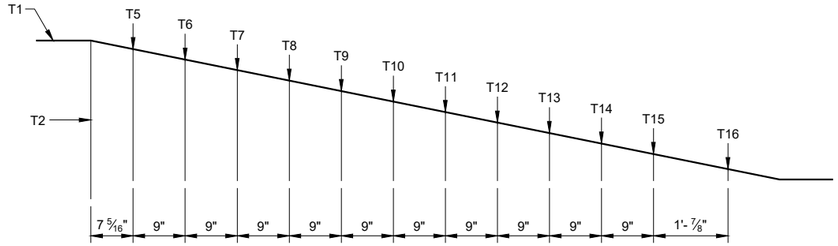
(700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.



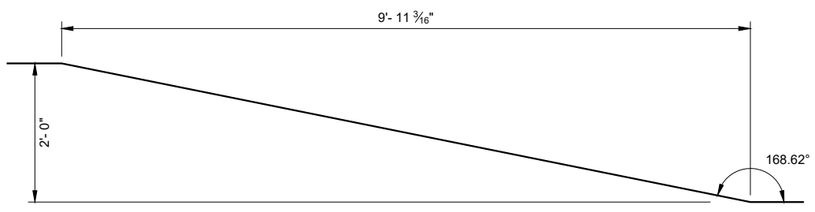

**ISOMETRIC**
**56 INCH TOP CAP**



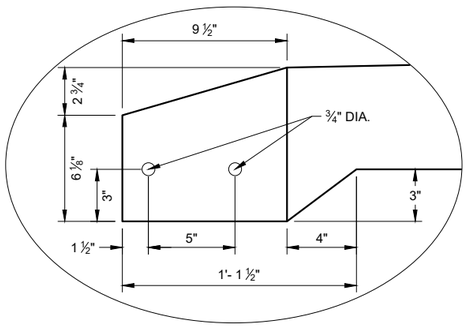

**END VIEW**
**56 INCH TOP CAP**



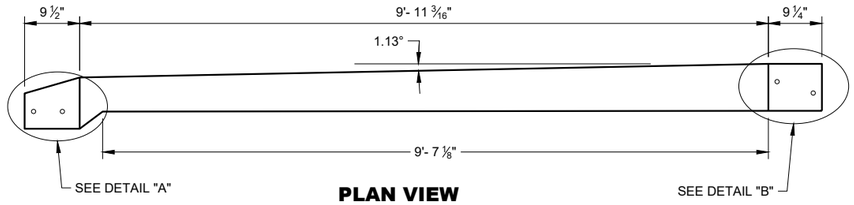

**SIDE VIEW** (700)
**56 INCH TOP CAP**



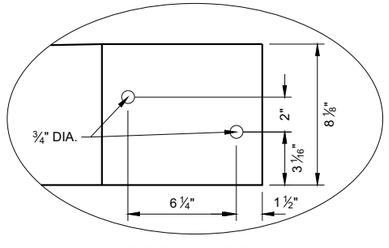

**SIDE VIEW**
**TOP PLATE T1**



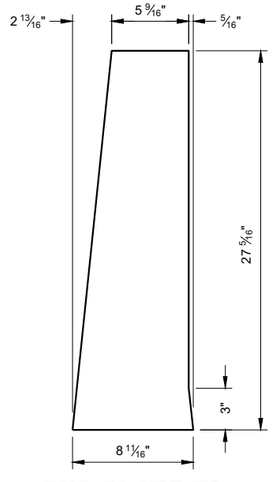

**DETAIL "A"**



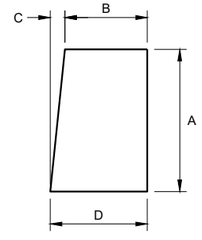

**PLAN VIEW**
**TOP PLATE T1**




**DETAIL "B"**




**END PLATE T2**




**GUSSET PLATES**
**T5 - T16**

| GUSSET DIMENSIONS | | | | |
|---|---|---|---|---|
| GUSSET NO. | A | B | C | D |
| T5 | 22 13/16" | 5 1/16" | 2 5/16" | 8 1/16" |
| T6 | 21" | 5 7/8" | 2 3/16" | 8 1/16" |
| T7 | 19 3/16" | 6 1/16" | 1 15/16" | 8 1/16" |
| T8 | 17 3/8" | 6 1/4" | 1 13/16" | 8 1/16" |
| T9 | 15 5/16" | 6 7/16" | 1 9/16" | 8 1/16" |
| T10 | 13 3/4" | 6 5/8" | 1 7/16" | 8 1/16" |
| T11 | 11 15/16" | 6 13/16" | 1 1/4" | 8 1/16" |
| T12 | 10 1/8" | 7" | 1 1/16" | 8 1/16" |
| T13 | 8 5/16" | 7 3/16" | 7/8" | 8 1/16" |
| T14 | 6 1/2" | 7 3/8" | 1 1/16" | 8 1/16" |
| T15 | 4 11/16" | 7 9/16" | 1/2" | 8" |
| T16 | 2 7/8" | 7 3/4" | 1/4" | 8" |

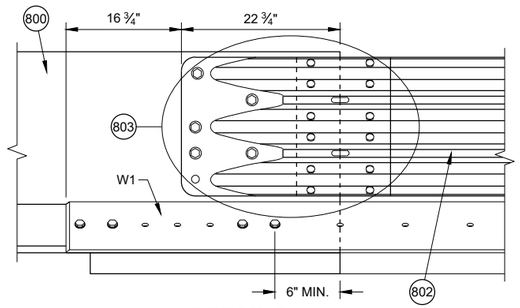
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

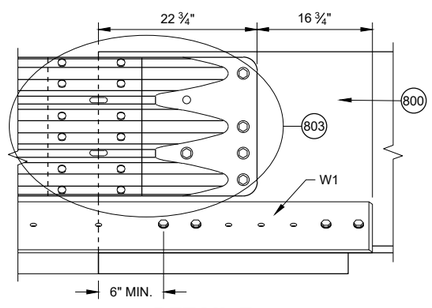



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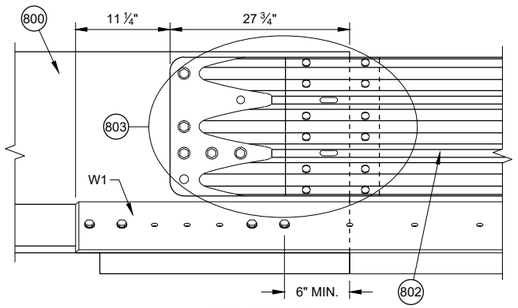

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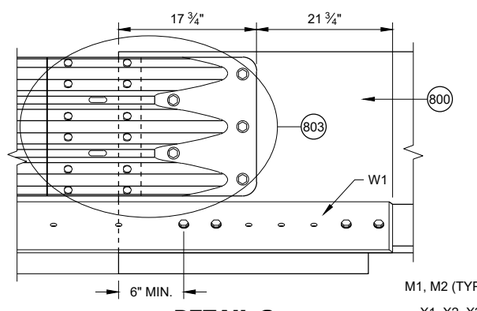

**DETAIL D**



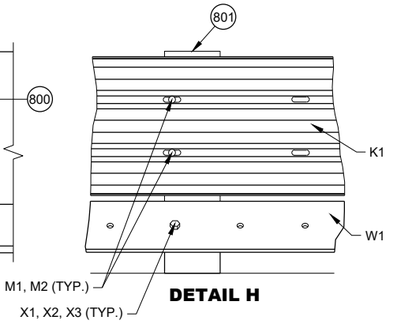

**DETAIL E**



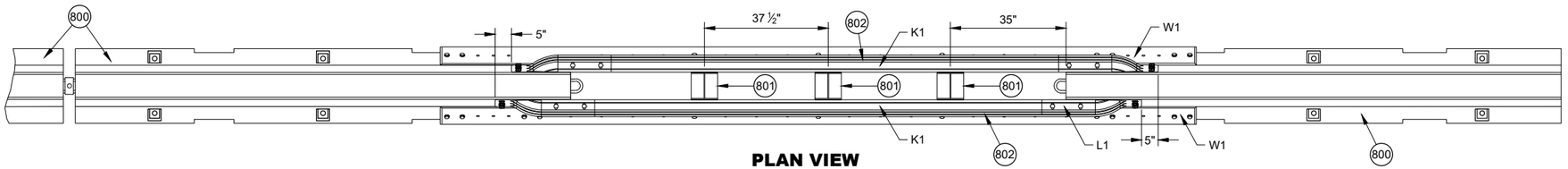

**DETAIL F**




**DETAIL G**




**DETAIL H**




**PLAN VIEW**

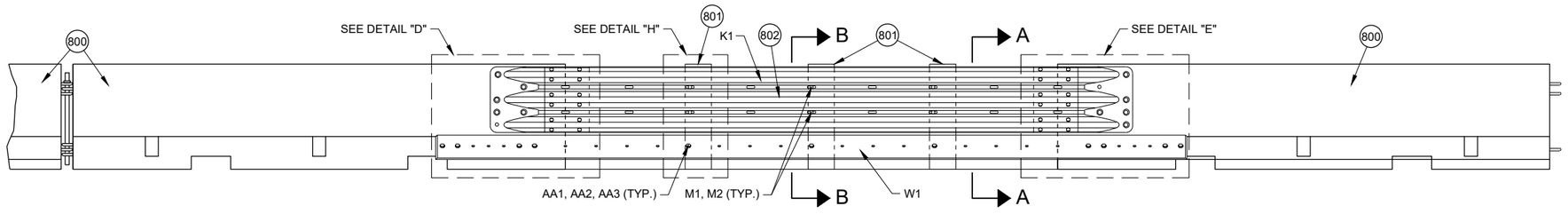
## GENERAL NOTES

(800) FREE STANDING TEMPORARY BARRIER

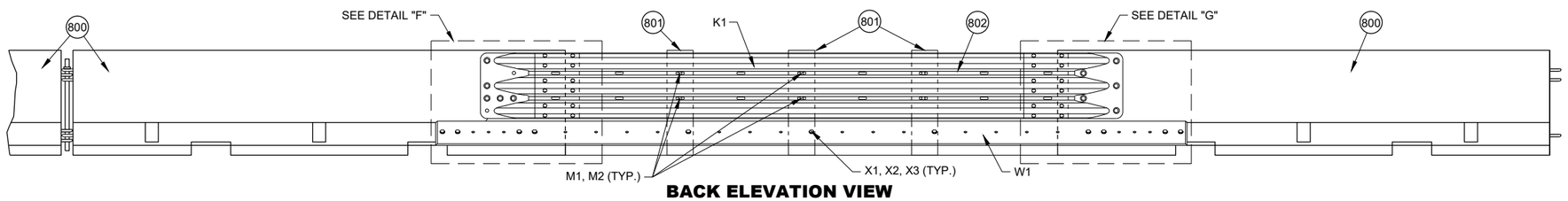
(801) GAP STIFFENER ASSEMBLY

(802) THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.

(803) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL




**FRONT ELEVATION VIEW**




**BACK ELEVATION VIEW**

**PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER**

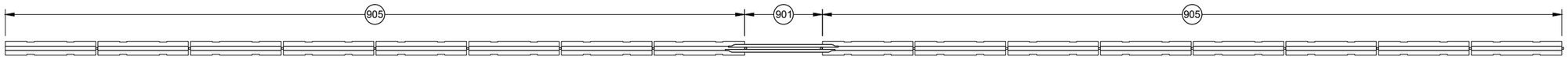
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
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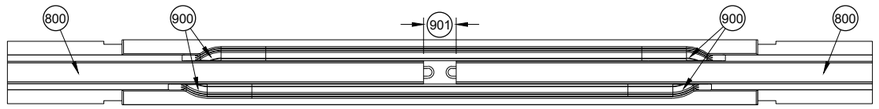




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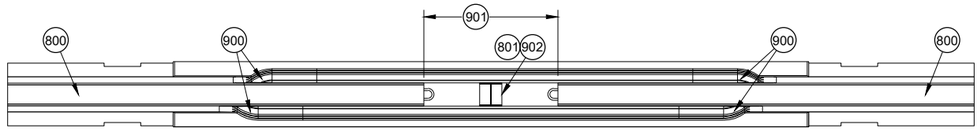

**PLAN VIEW**
**GAP WITHIN SPACING**



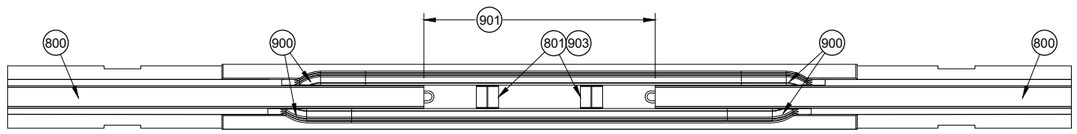

**PLAN VIEW**
**TEMPORARY BARRIER GAP OVER 4" TO 1' MAX.** (904)

## GENERAL NOTES

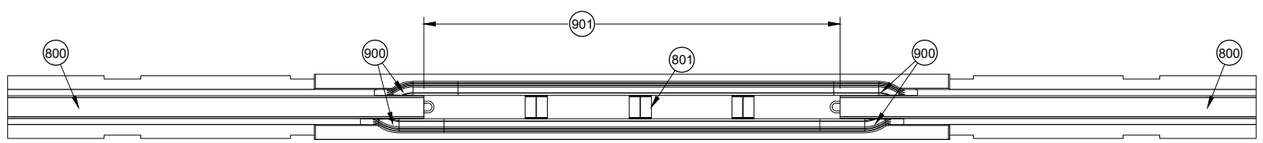
(900) SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
(901) TEMPORARY BARRIER GAP
(902) GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
(903) GAP STIFFENER ASSEMBLY IS OFFSET 18 ¾" FROM CENTER
(904) MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
(905) MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS




**PLAN VIEW**
**TEMPORARY BARRIER GAP OVER 1' TO 4' MAX.** (904)




**PLAN VIEW**
**TEMPORARY BARRIER GAP OVER 4' TO 7' MAX.** (904)

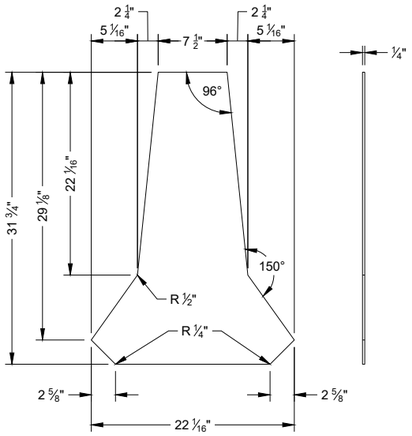



**PLAN VIEW**
**TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX.** (904)

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

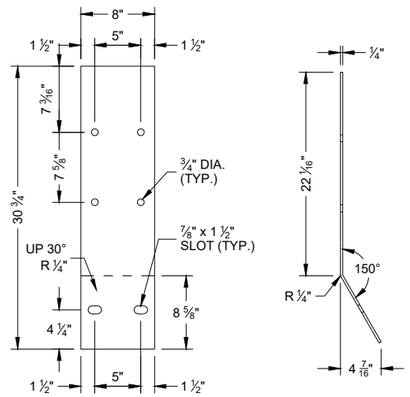


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PROFILE VIEW SIDE VIEW

**STIFFENER ASSEMBLY CENTER PANEL U1**

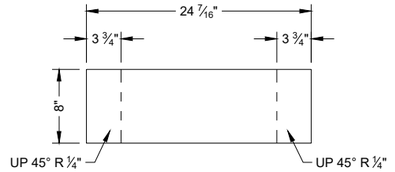



FLAT PATTERN

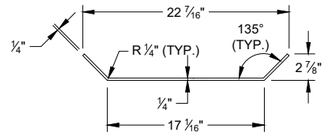



SIDE VIEW

**STIFFENER ASSEMBLY SIDE PANEL U2**

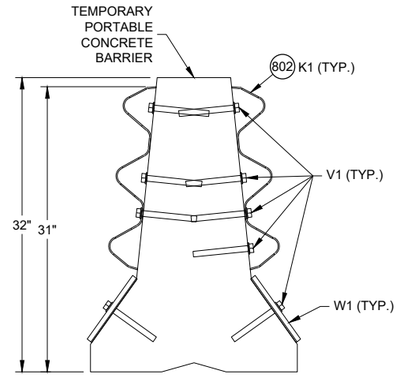



**FLAT PATTERN**

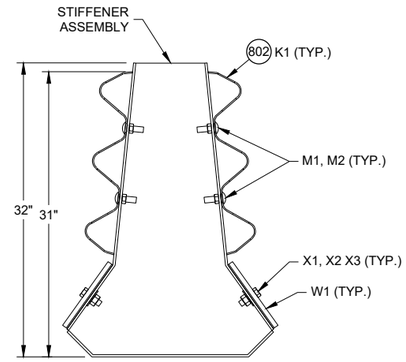



PROFILE VIEW

**STIFFENER ASSEMBLY BOTTOM PANEL U3**



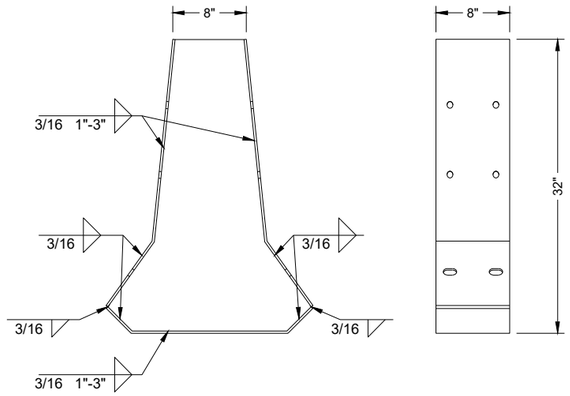

**SECTION A - A**




**SECTION B - B**



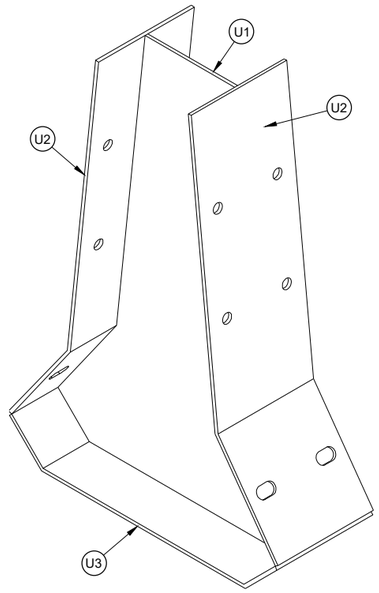

PLAN VIEW




PROFILE VIEW




SIDE VIEW

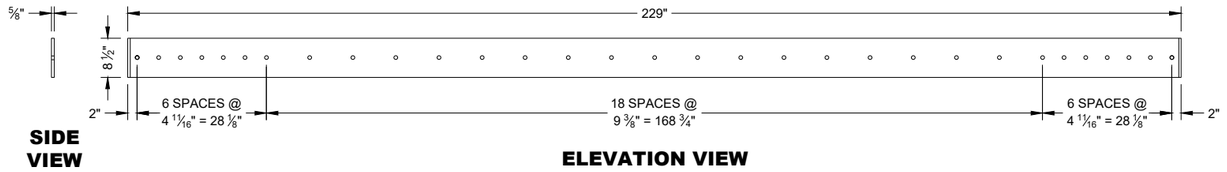



ISOMETRIC

**GAP STIFFENER ASSEMBLY**




PLAN VIEW




SIDE VIEW

ELEVATION VIEW

**W1 TOE PLATE**

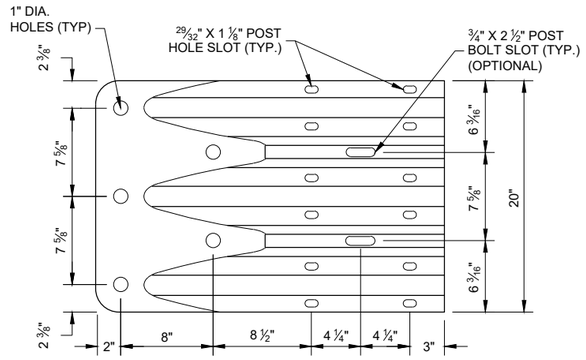
**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



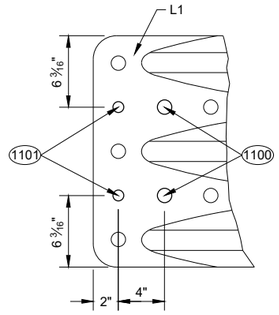


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**ELEVATION VIEW**

**THRIE BEAM TERMINAL CONNECTOR**




**ELEVATION VIEW**

**ADDITIONAL THRIE BEAM (1102) TERMINAL CONNECTOR HOLE DETAIL**

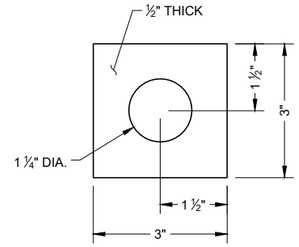


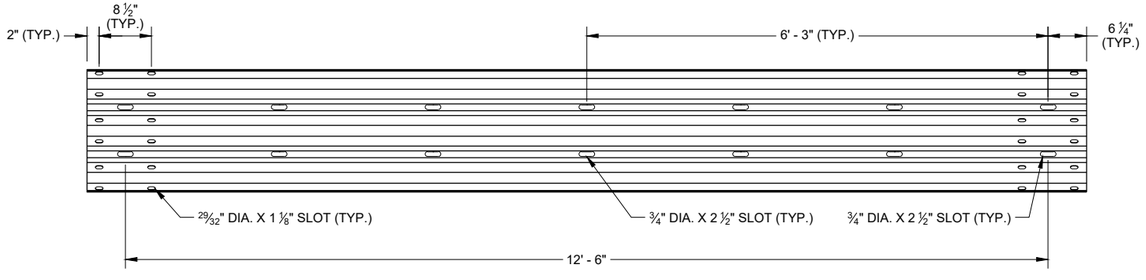

**PLATE WASHER DETAIL G2, H3**

## GENERAL NOTES

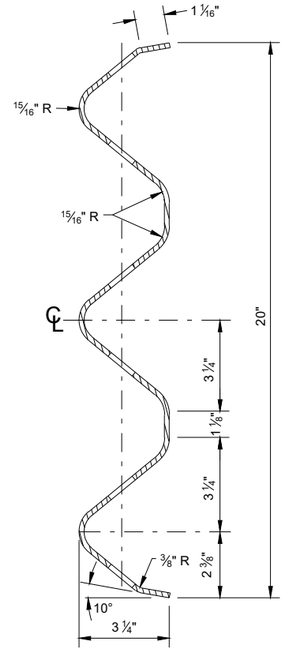
(1100) 1" DIA. HOLE

(1101) 3/4" DIA. HOLE

(1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.




**SLOTTED THRIE BEAM RAIL K1**




**SECTION THROUGH BEAM K1**

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

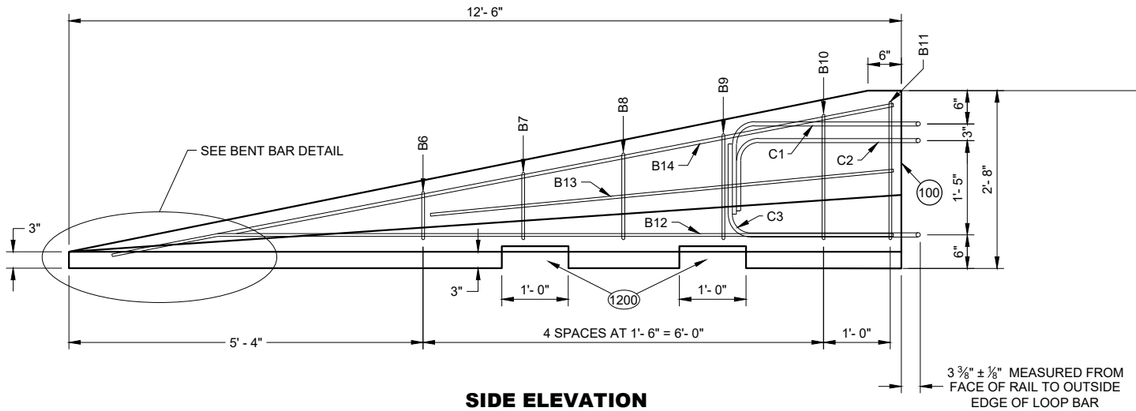
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



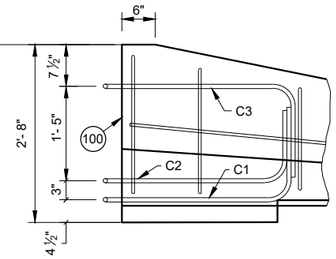


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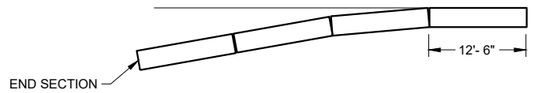

**SIDE ELEVATION**
(FOR CONNECTION TO LEFT END OF BARRIER)




**SIDE ELEVATION**
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END
(FOR CONNECTION TO RIGHT END OF BARRIER)

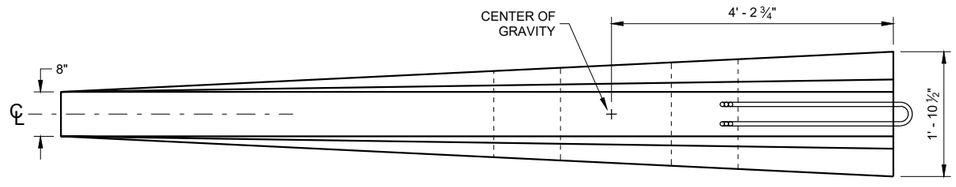
## GENERAL NOTES

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

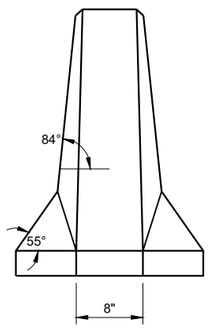



**FLARE AT BARRIER END**

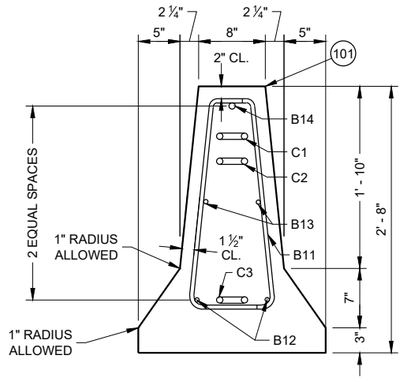
| POSTED SPEED, (MPH) | FLARE RATE |
|---|---|
| 40 OR LESS | 6:1 |
| 45 OR GREATER | 8:1 |



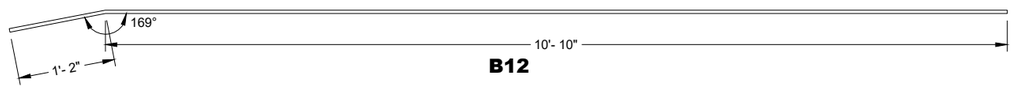

**PLAN VIEW**



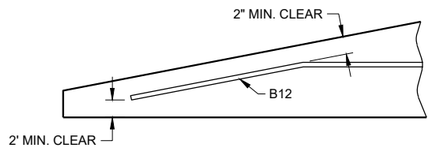

**FRONT ELEVATION**



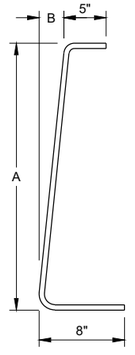

**END SECTION**




**B12**




**BENT BAR DETAIL**




| BAR | A | B |
|---|---|---|
| B6 | 10" | 1" |
| B7 | 1'- 1" | 1 ¼" |
| B8 | 1'- 5" | 1 ⅝" |
| B9 | 1'- 8" | 1 ⅞" |
| B10 | 2'- 0 ½" | 2 ⅜" |
| B11 | 2'- 3" | 2 ¾" |

**B BARS**
2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

## DETAILS OF BARRIER TAPER SECTION

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




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# BILL OF MATERIALS - CONCRETE BARRIER PRECAST

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| A1 | PRECAST TEMPORARY BARRIER - CONCRETE | MIN. = f'c 5000 PSI | |
| B1 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #5 REBAR, LENGTH 12'-2" |
| B2 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 12'-2" |
| B3 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #5 REBAR, LENGTH 12'-2" |
| B4 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 6'-0" |
| B5 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #6 REBAR, LENGTH 2'-11" |
| B6 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 1'-11" |
| B7 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 2'-2" |
| B8 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 2'-6" |
| B9 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 2'-9" |
| B10 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 3'-2" |
| B11 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 3'-4" |
| B12 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 12'-0" |
| B13 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #4 REBAR, LENGTH 7'-9" |
| B14 | REBAR | STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR | #5 REBAR, LENGTH 11'-9" |
| C1 | LOOP BAR | ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED | ¾" DIA. |
| C2 | LOOP BAR | ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED | ¾" DIA. |
| C3 | LOOP BAR | ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED | ¾" DIA. |
| D1 | CONNECTION PIN - ROD | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | 1 ¼" DIA. |
| D2 | CONNECTION PIN - TOP PLATE | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | |
| G1 | BOLT THROUGH ANCHOR - THREADED ROD | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC | 1 ⅛" DIA. |
| G2 | BOLT THROUGH ANCHOR - WASHER, SQUARE | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | |
| G3 | BOLT THROUGH ANCHOR - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| H1 | ADHESIVE ANCHOR - ADHESIVE | ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. BOND STRENGTH OF 1,650 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | |
| H2 | ADHESIVE ANCHOR - THREADED ROD | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC | 1 ⅛" DIA. |
| H3 | ADHESIVE ANCHOR - WASHER, SQUARE | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | |
| H4 | ADHESIVE ANCHOR - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| J1 | ASPHALT ANCHOR PIN - ROD | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | 1 ½" DIA. |
| J2 | ASPHALT ANCHOR PIN - STOP PLATE | ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI | |
| K1 | THRIE BEAM RAIL | AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER | 12 GAUGE |
| L1 | THRIE BEAM RAIL - TERMINAL | AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER | 12 GAUGE |

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| M1 | SPLICE BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36 | ⅝" DIA. |
| M2 | SPLICE BOLT - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| N1 | THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | ¾" DIA. LENGTH 6" |
| N2 | THRIE BEAM RAIL TERMINAL - WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 | |
| N3 | THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR | MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | |
| P1 | THRIE BEAM RAIL CONNECTION 1-BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | ¾" DIA. |
| P2 | THRIE BEAM RAIL CONNECTION 1-WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 | |
| P3 | THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR | MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | |
| Q1 | BLOCK WOOD | SEE STANDARD SPEC. 614 | |
| R1 | CAP - BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | ⅝" DIA. |
| R2 | CAP- BOLT - WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 | |
| R3 | CAP - BOLT - MECHANICAL ANCHOR | MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | 12 GAUGE |
| S1 | CAP 42-INCH TOP PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S2 | CAP 42-INCH END PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S3 | CAP 42-INCH SIDE PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S4 | CAP 42-INCH GUSSET 1 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S5 | CAP 42-INCH GUSSET 2 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S6 | CAP 42-INCH GUSSET 3 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| S7 | CAP 42-INCH GUSSET 4 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |

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SDD 14B07-16m

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6

SDD 14B07-16m

## BILL OF MATERIALS - CONCRETE BARRIER PRECAST

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| T1 | CAP 56-INCH TOP PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T2 | CAP 56-INCH END PLATE | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T3 | CAP 56-INCH SIDE PLATE 1 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T4 | CAP 56-INCH SIDE PLATE 2 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T5 | CAP 56-INCH GUSSET 1 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T6 | CAP 56-INCH GUSSET 2 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T7 | CAP 56-INCH GUSSET 3 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T8 | CAP 42-INCH GUSSET 4 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T9 | CAP 42-INCH GUSSET 5 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T10 | CAP 42-INCH GUSSET 6 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T11 | CAP 42-INCH GUSSET 7 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T12 | CAP 42-INCH GUSSET 8 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T13 | CAP 42-INCH GUSSET 9 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T14 | CAP 42-INCH GUSSET 10 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T15 | CAP 42-INCH GUSSET 11 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| T16 | CAP 42-INCH GUSSET 12 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | 12 GAUGE |
| U1 | GAP STIFFENER | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | |
| U2 | GAP STIFFENER - CONNECTOR PLATE 1 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | |
| U3 | GAP STIFFENER - CONNECTOR PLATE 2 | AASHTO M111 / ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | |

| PART | DESCRIPTION | MATERIALS SPECIFICATIONS | NOTES |
|---|---|---|---|
| V1 | THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR | MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS. | ¾" DIA. |
| V2 | GAP STIFFENER - BOLT - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |
| W1 | TOE PLATE | AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI | |
| X1 | TOE PLATE - CONNECTION BOLT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 HEAD, ASTM F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED. PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT. | ¾" DIA. |
| X2 | TOE PLATE - CONNECTION BOLT - WASHER | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY) | |
| X3 | TOE PLATE - CONNECTION BOLT - NUT | HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5 | |

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SDD 14B07-16n

**CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

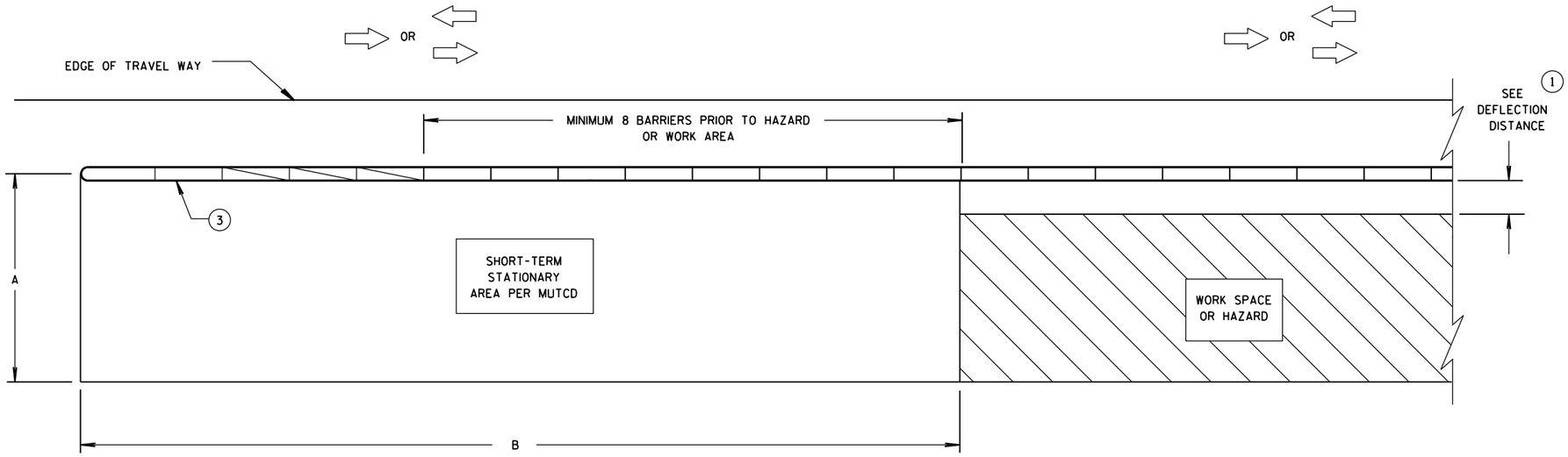
APPROVED
February 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



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SDD 14B07-16n



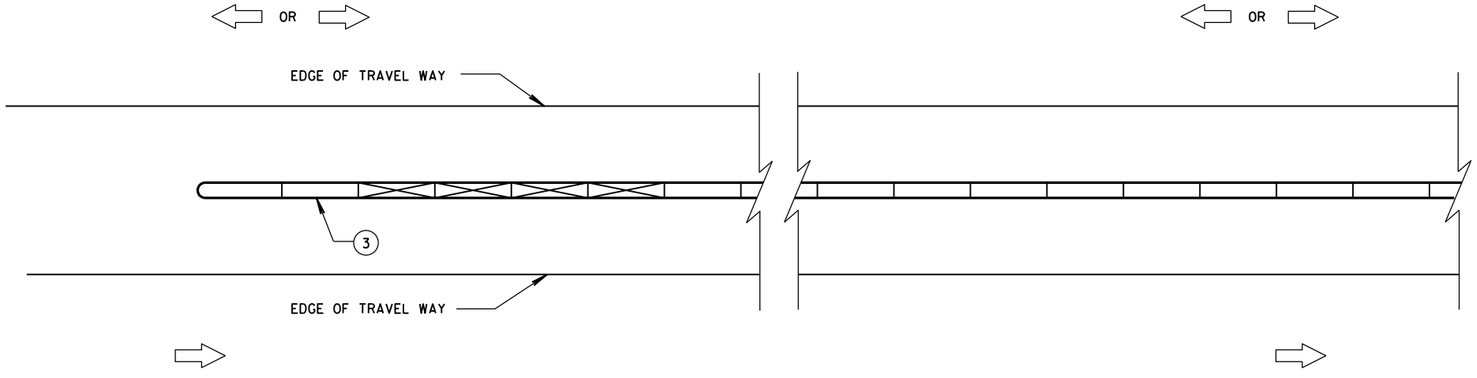

## CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

### DIMENSION A TABLE (2)

| FACILITY | POSTED SPEED MPH | DIMENSION A | |
|---|---|---|---|
| | | MIN. FT | MAX. FT |
| FREEWAY/EXPRESSWAY | ALL | 15 | 20 |
| NON-FREEWAY/EXPRESSWAY | GREATER THAN OR EQUAL TO 45 | 10 | 15 |
| NON-FREEWAY/EXPRESSWAY | LESS THAN 45 | 8 | 10 |
| AADT LESS THAN 1,500 | ALL | 8 | 10 |

### DIMENSION B TABLE (2)

| POSTED SPEEDS MPH | DIMENSION B FT |
|---|---|
| 20 | 115 |
| 25 | 155 |
| 30 | 200 |
| 35 | 250 |
| 40 | 305 |
| 45 | 360 |
| 50 | 425 |
| 55 | 495 |
| 60 | 570 |
| 65 | 645 |




## CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

### LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

## GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

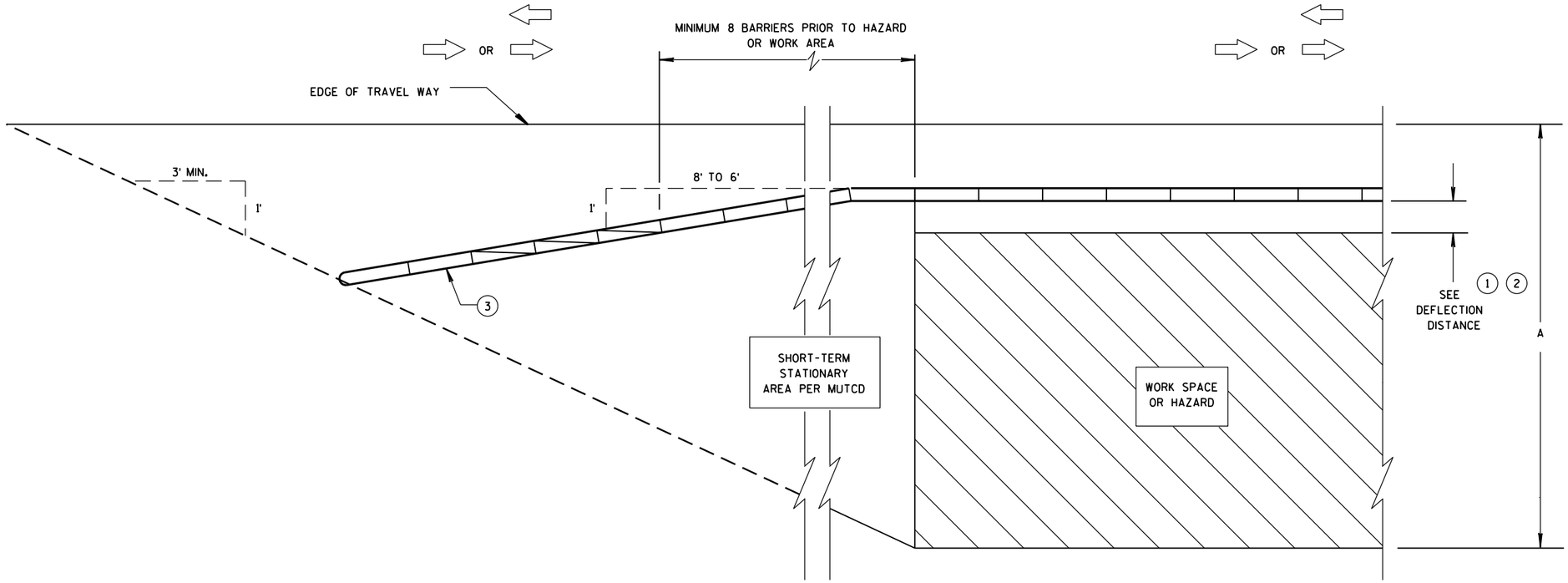
**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

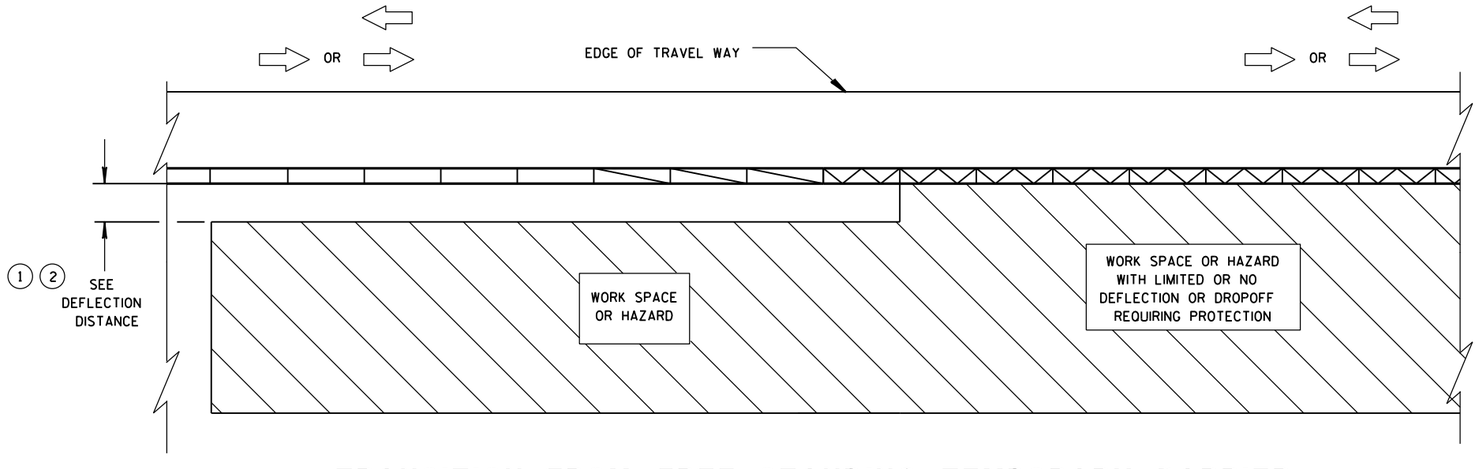



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S.D.D. 14 B 8-2a




## CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION




## TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

**LEGEND**

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

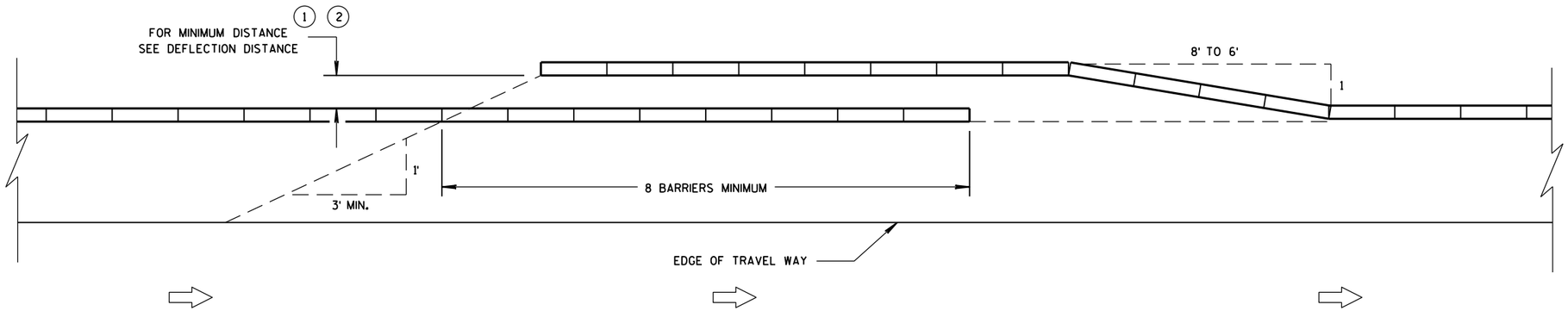


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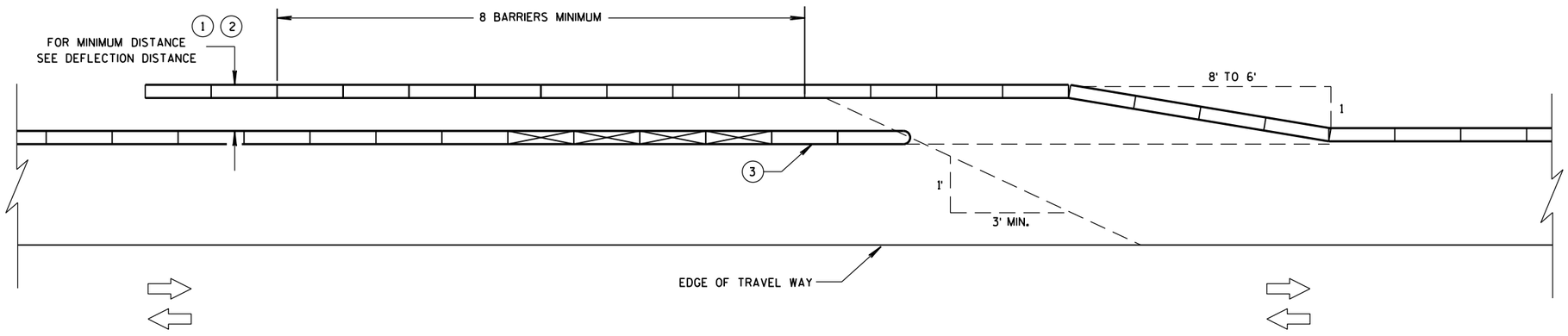
S.D.D. 14 B 8-2b

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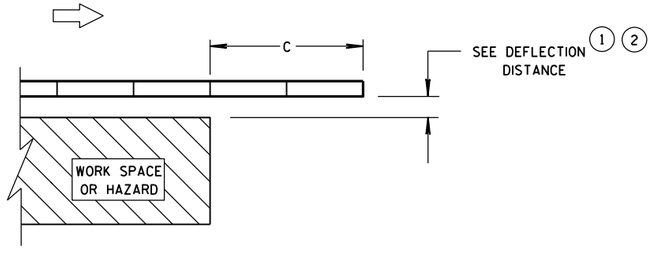
S.D.D. 14 B 8-2b



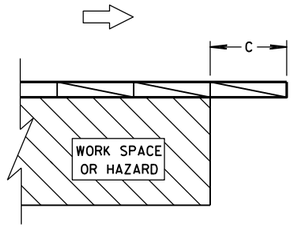

## TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC




## TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC




## ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED




## ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

### LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

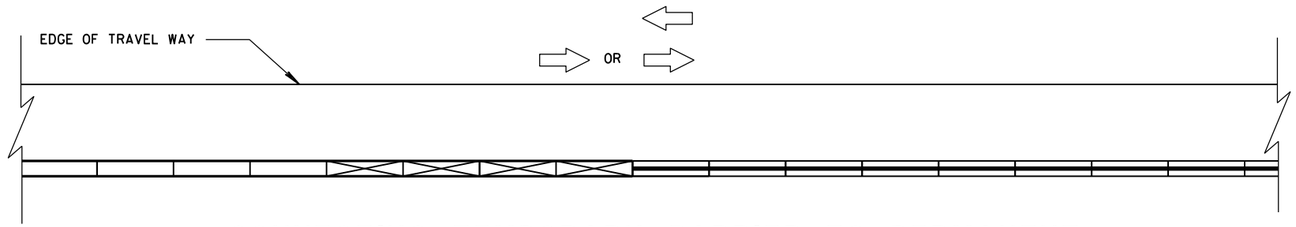
**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

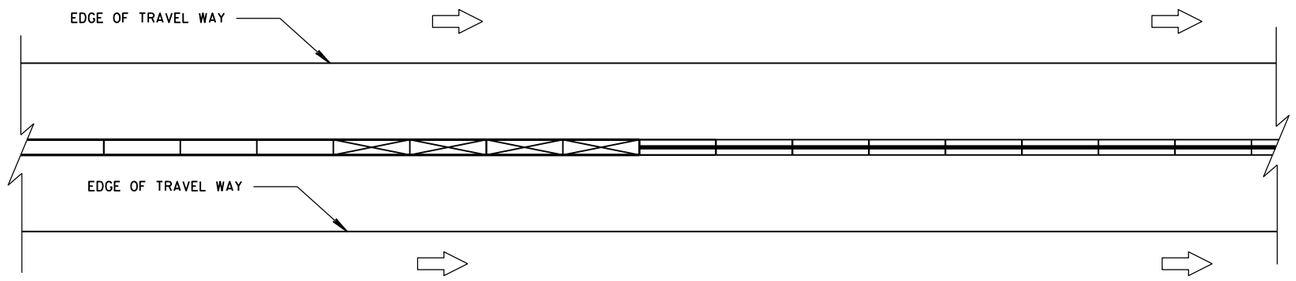



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S.D.D. 14 B 8-2c




CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE




CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

**LEGEND**

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

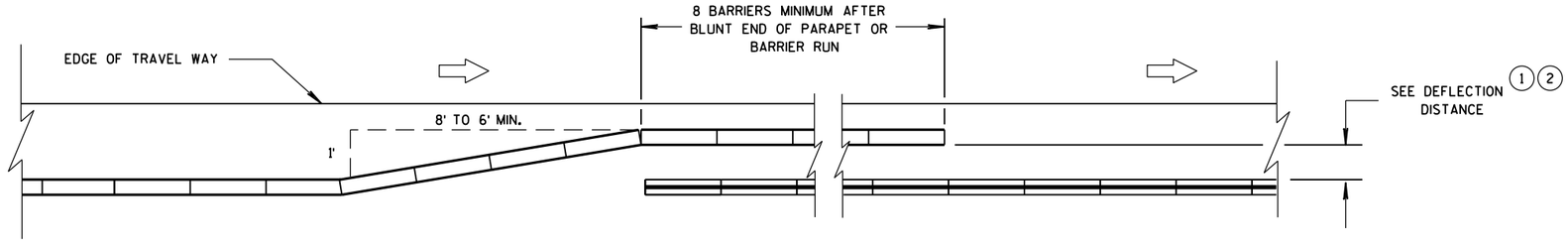
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

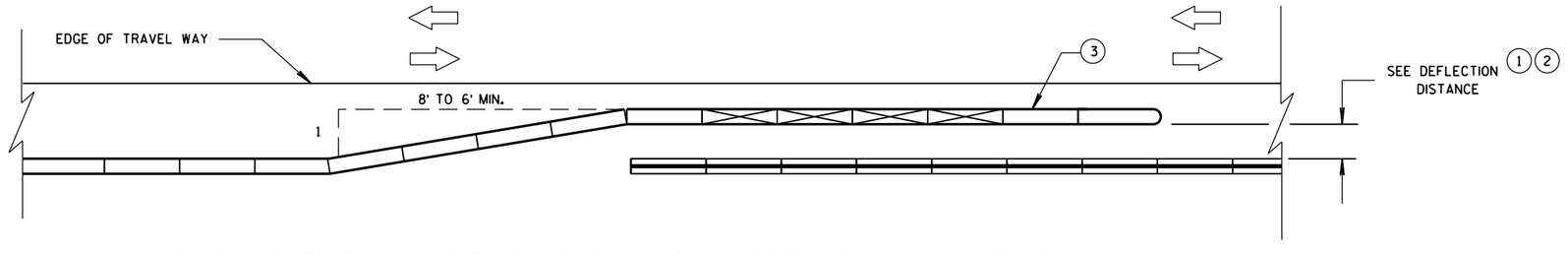
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER




OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC




OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI




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S.D.D. 14 B 8-2d

## LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

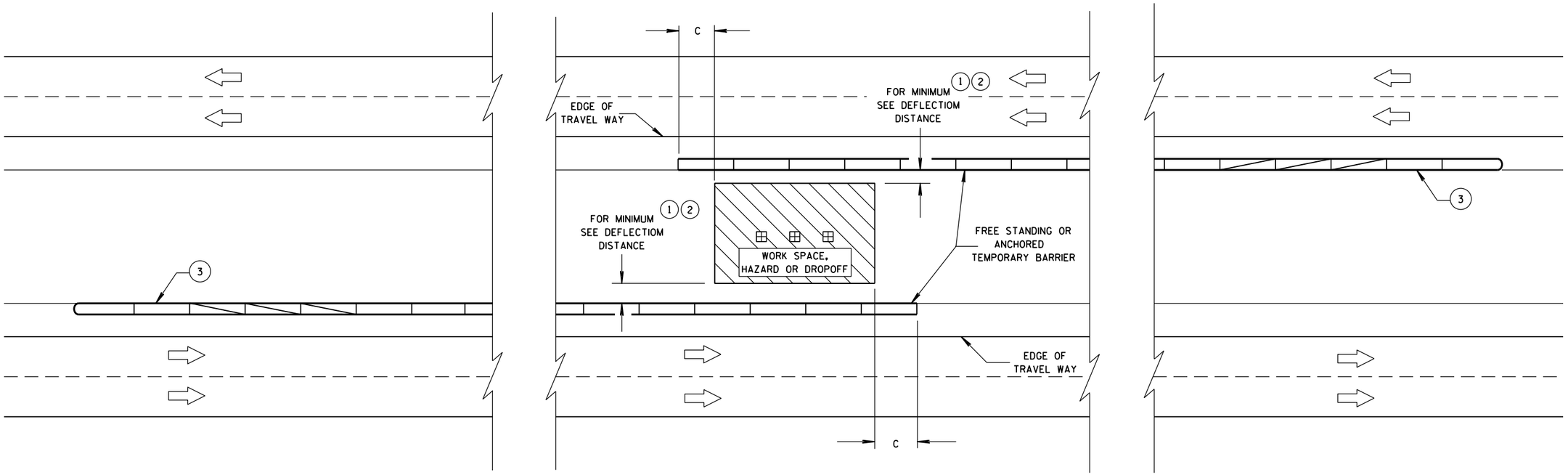
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

## DIMENSION C TABLE (2)

| AVAILABLE DEFLECTION DISTANCE | MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT |
|---|---|
| GREATER THAN 8' | 12.5 |
| LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4' | 50 |
| LESS THAN OR EQUAL TO 4' | 100 |




CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

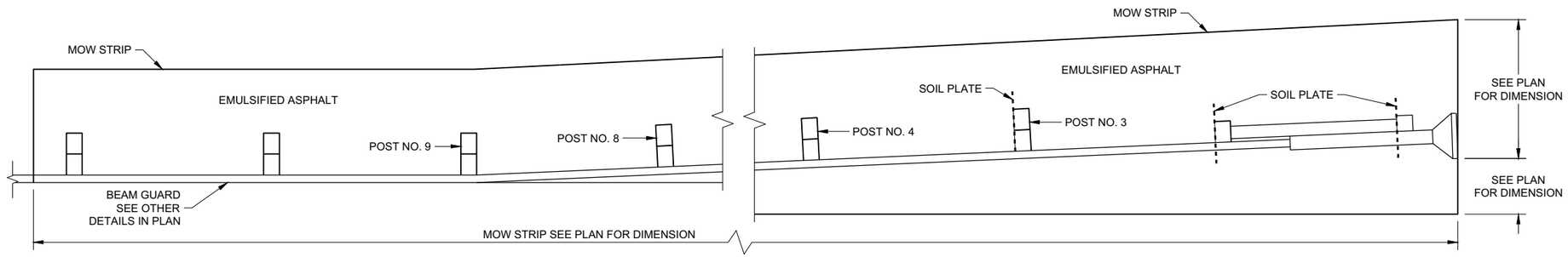
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
FHWA




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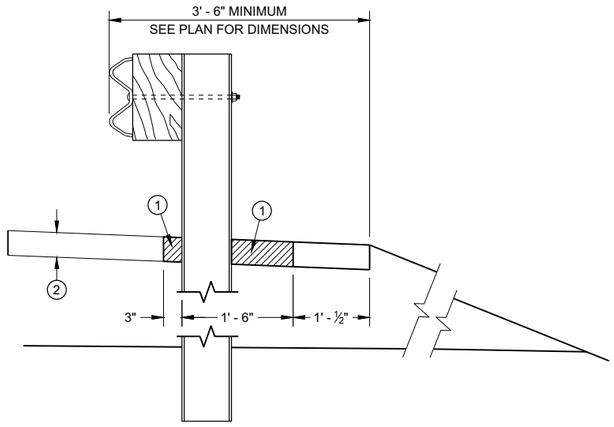

**PLAN VIEW**

## MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

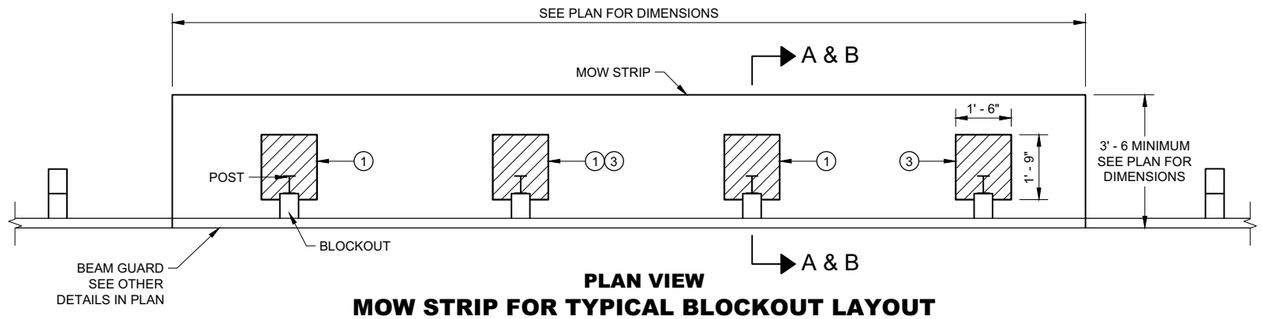
## GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

1. CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
2. DEPTH OF MOW STRIP:
   ASPHALT - 4"
   CONCRETE - 4"
   EMULSIFIED ASPHALT - 1" OR LESS
3. FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)

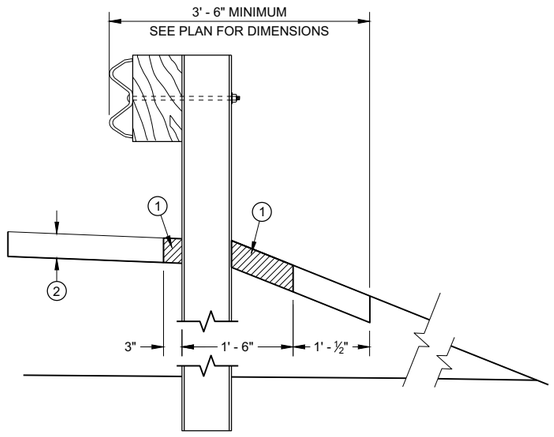



**SECTION A - A**

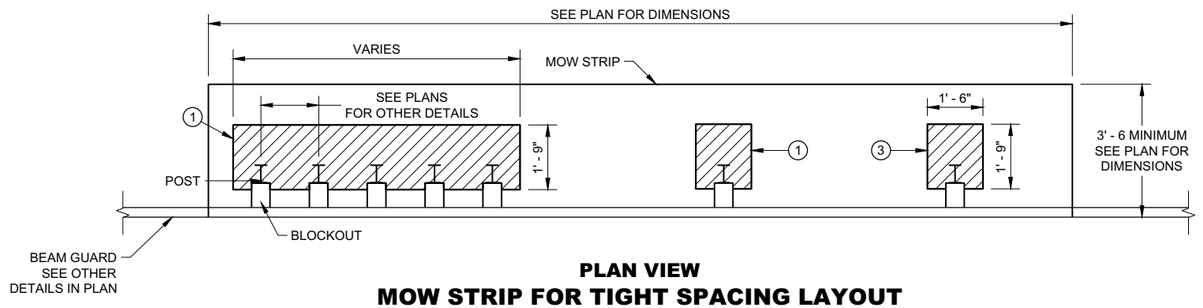



**PLAN VIEW**

## MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT

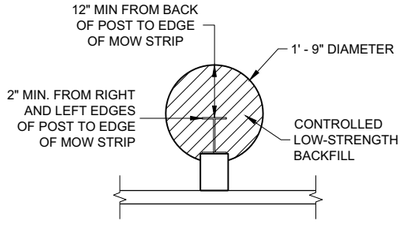



**SECTION B - B**

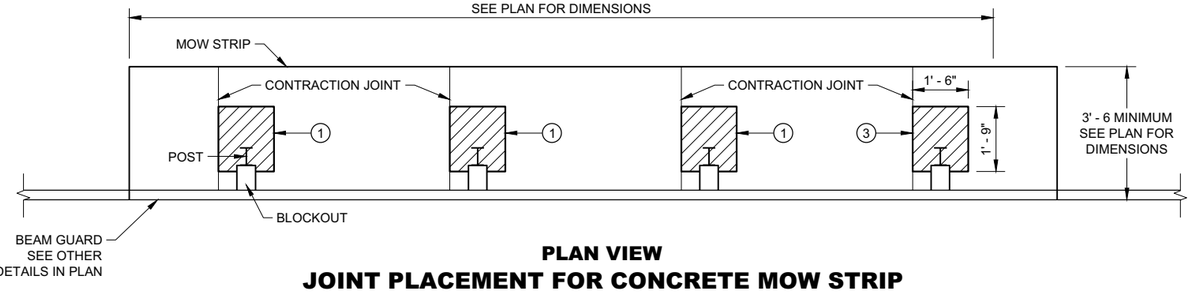



**PLAN VIEW**

## MOW STRIP FOR TIGHT SPACING LAYOUT




## ALTERNATIVE HMA MOW STRIP DESIGN




**PLAN VIEW**

## JOINT PLACEMENT FOR CONCRETE MOW STRIP

**GUARDRAIL MOW STRIP**

STATE OF WISCONSIN
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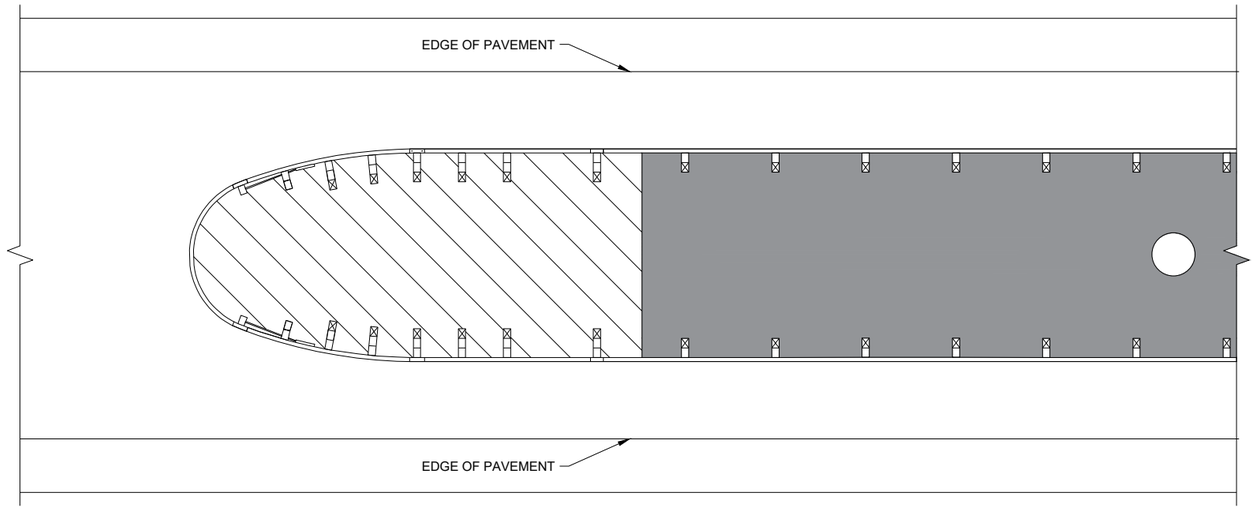
## LEGEND

CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

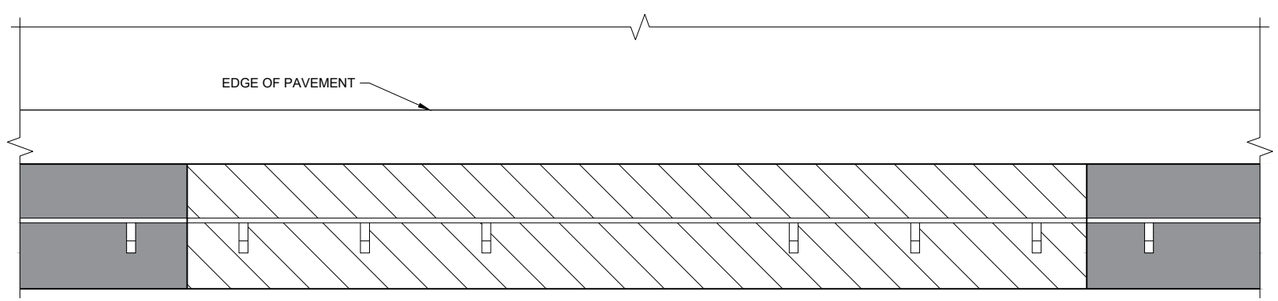
EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

## GENERAL NOTES

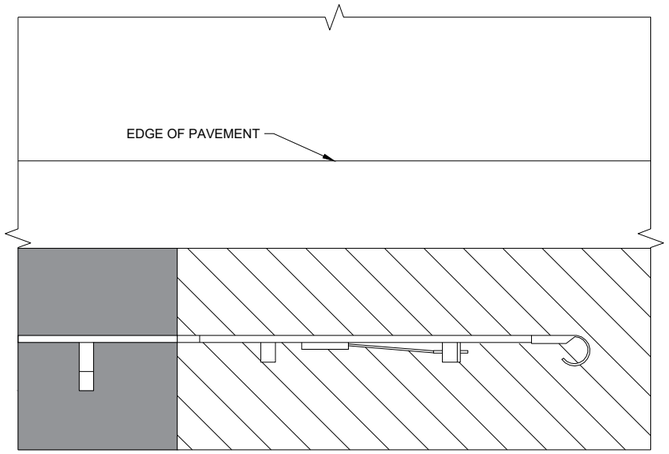
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



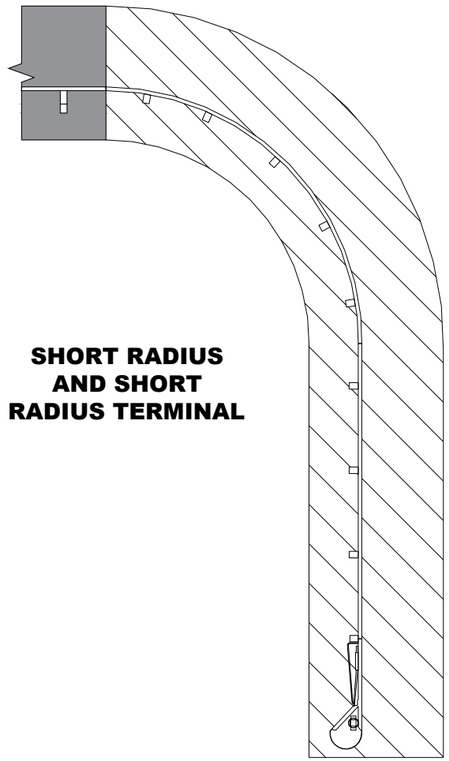

**THRIE BEAM BULLNOSE**




**LONG - SPAN**




**TYPE 2 TERMINAL**



**SHORT RADIUS AND SHORT RADIUS TERMINAL**

**GUARDRAIL MOW STRIP**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER

FHWA



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SDD 14B28 - 04b

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(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

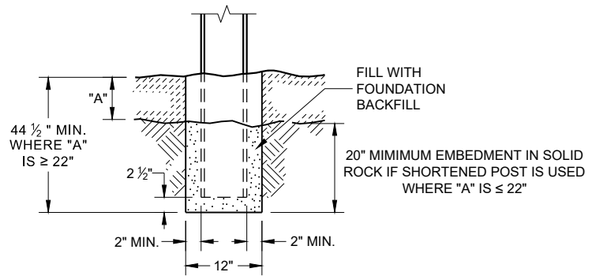
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

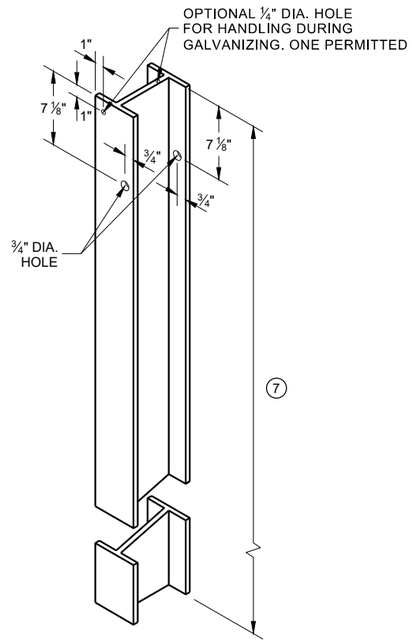
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

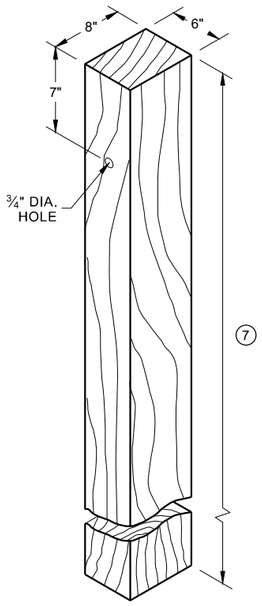
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



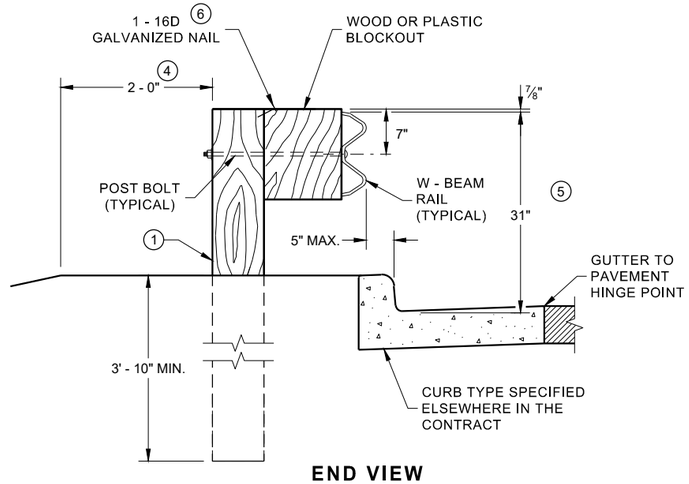

END VIEW
**SETTING STEEL OR WOOD POST IN ROCK** (3)



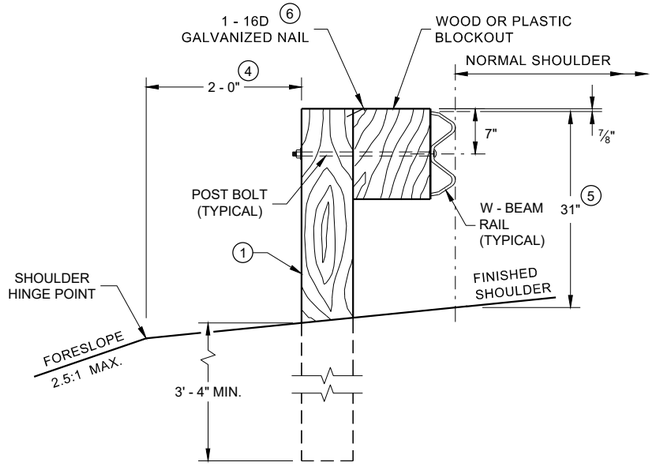

**STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)** (1)



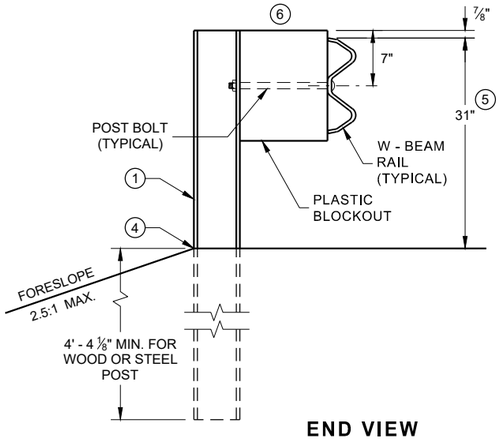

**WOOD POST (6" X 8") NOMINAL** (1)



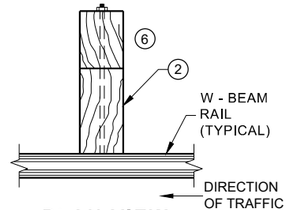

END VIEW
**LOCATED ALONG A CURBED ROADWAY**



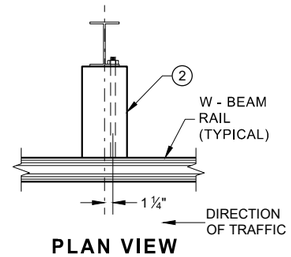

END VIEW
**LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION**



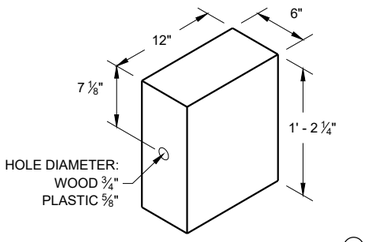

END VIEW
**MGS LONGER POST AT HALFPOST SPACING W BEAM (K)**




PLAN VIEW
**WOOD POST, BLOCKOUT & BEAM**




PLAN VIEW
**STEEL POST, PLASTIC BLOCKOUT & BEAM**




**WOOD OR PLASTIC BLOCKOUT** (2)

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

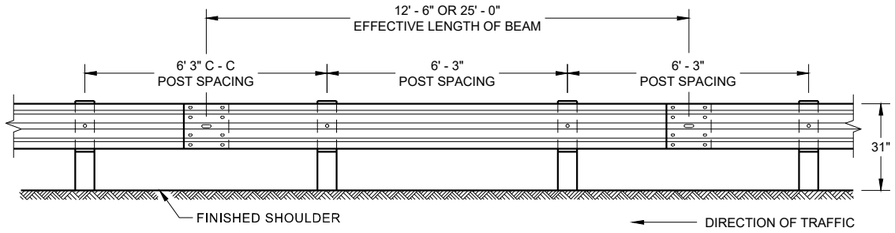


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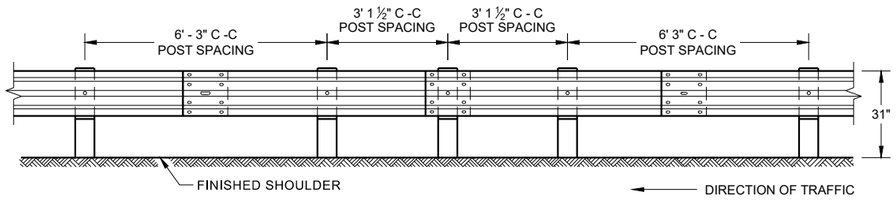
SDD 14B42 - 07a

6

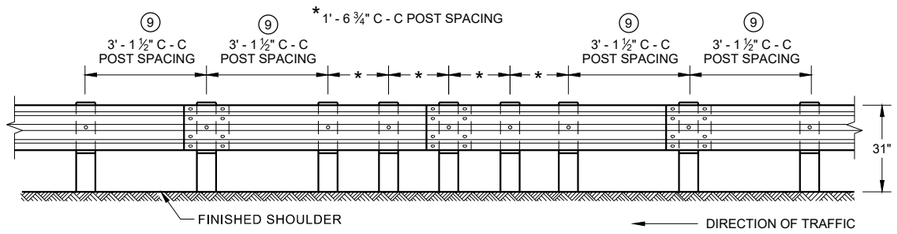
SDD 14B42 - 07a



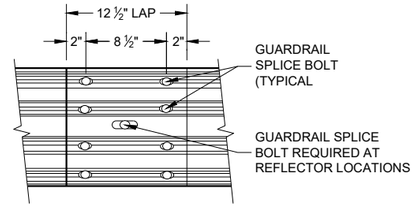

**FRONT VIEW**
**POST SPACING STANDARD INSTALLATION**



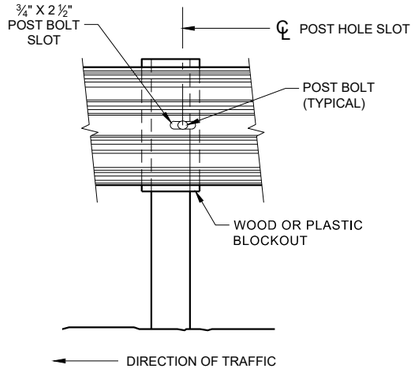

**FRONT VIEW**
**HALF POST SPACING (HS) AND**
**HALF POST SPACING WITH LONGER POSTS (K)**



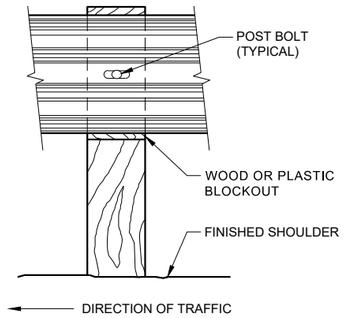

**FRONT VIEW**
**QUARTER POST SPACING (QS)**



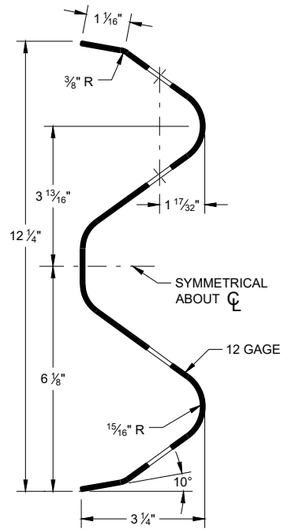

**FRONT VIEW**
**MID-SPAN BEAM SPLICE**



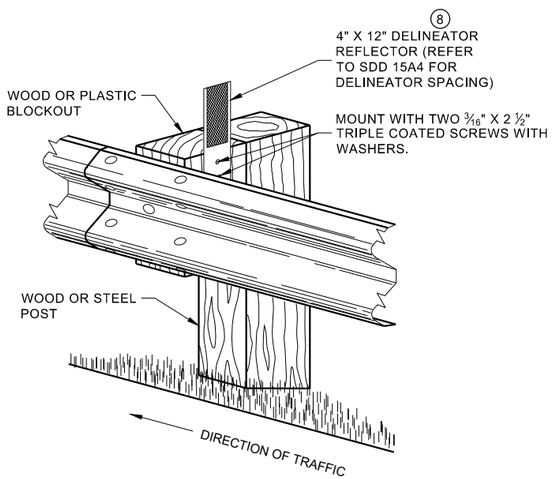

**FRONT VIEW AT STEEL POST**




**FRONT VIEW AT WOOD POST**




**SECTION THRU W-BEAM RAIL**




**ONE SIDED REFLECTOR DETAIL**
**AND TYPICAL INSTALLATION**

## GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

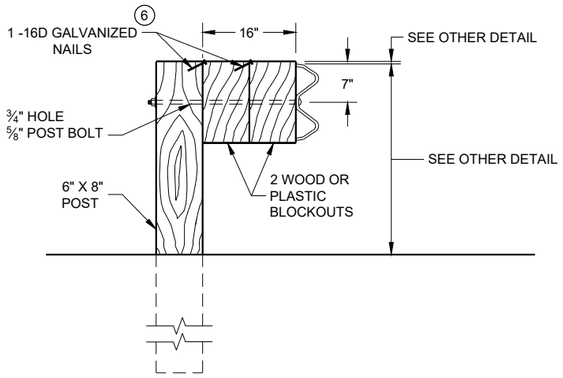
**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




6


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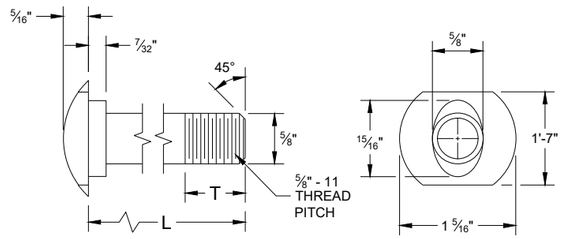



## DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

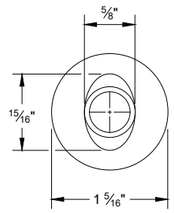
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

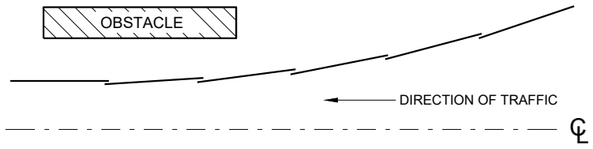



## POST BOLT TABLE

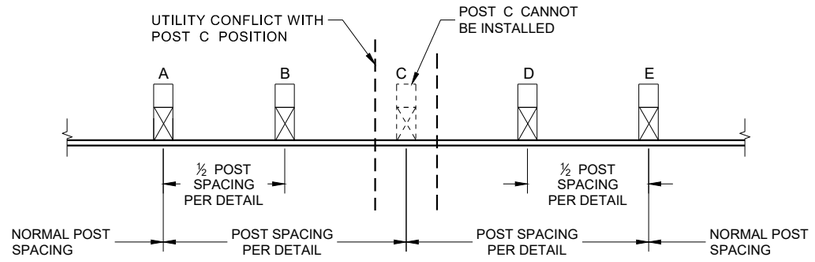
| L | T (MIN.) |
|---|---|
| 1 ¼" | 1 ⅛" |
| 2" | 1 ¾" |
| 10" | 4" |
| 14" | 4 1⁄16" |
| 18" | 4" |
| 21" | 4 1⁄16" |
| 25" | 4" |



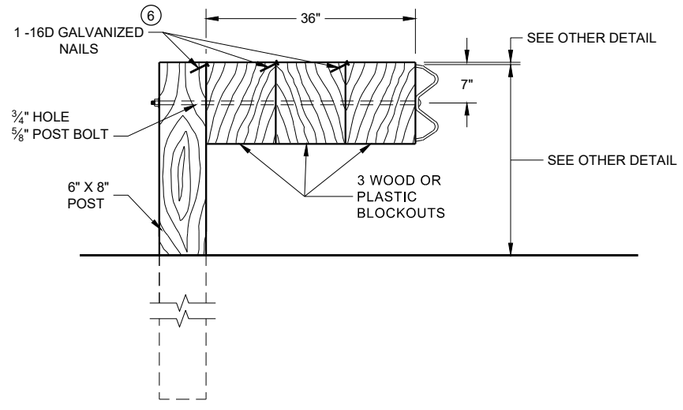

## ALTERNATE BOLT HEAD



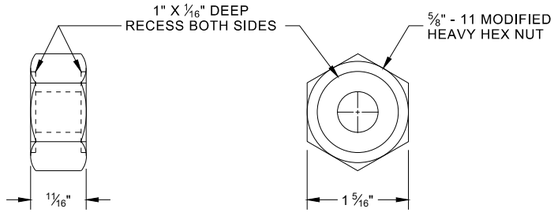

## PLAN VIEW
## BEAM LAPPING DETAIL



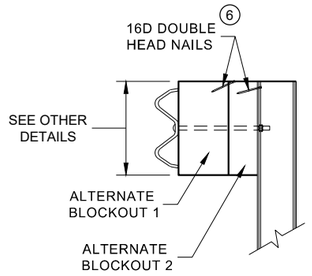

## POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



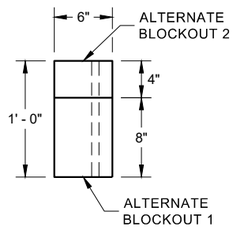

## DETAIL FOR 36" BLOCKOUT DEPTH




## POST BOLT, SPLICE BOLT AND RECESS NUT




SIDE VIEW




PLAN VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

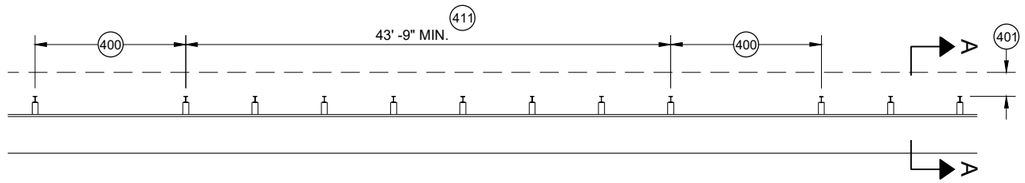
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

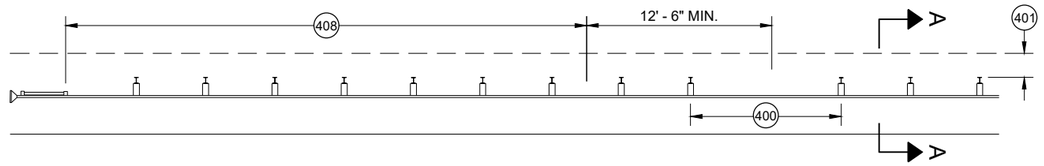
**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**



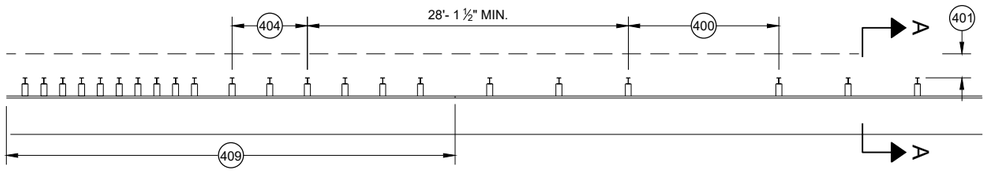
6
SDD 14B42 - 07c



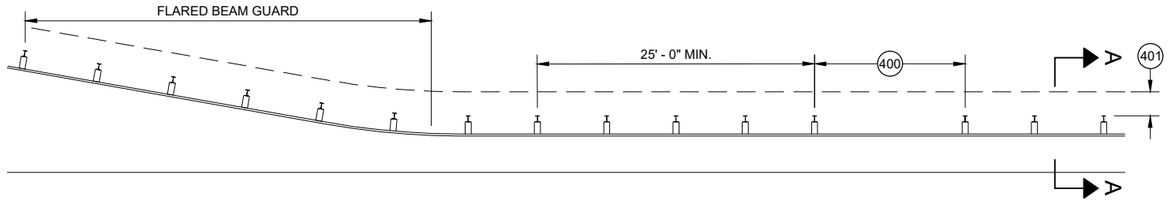

**MISSING POST IN MGS GUARDRAIL**



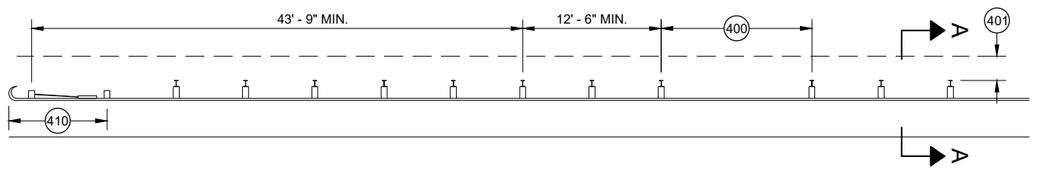

**MISSING POST IN MGS GUARDRAIL NEAR EAT**



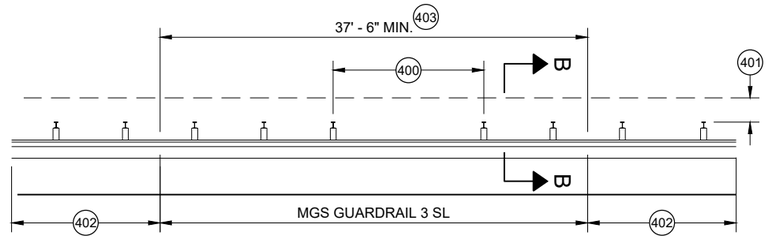

**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**




**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

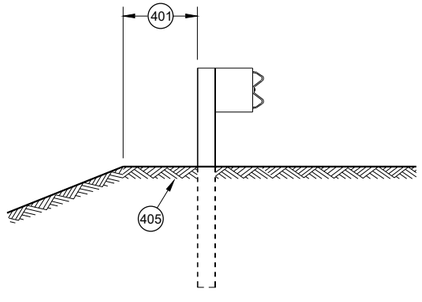



**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

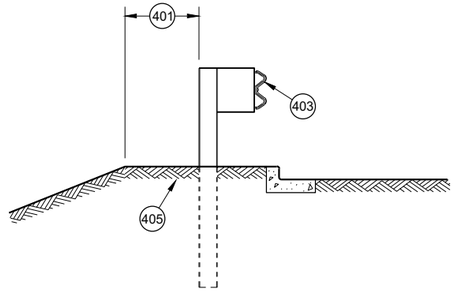



**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)** 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.




**SECTION A - A** 406




**SECTION B - B** 406

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA




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SDD 14B42 - 07d

## GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

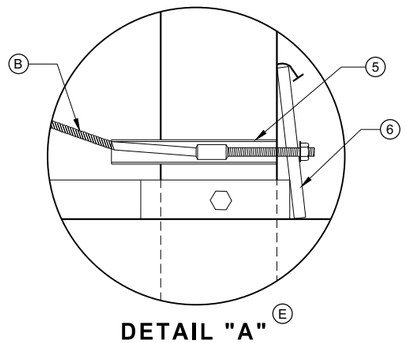
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

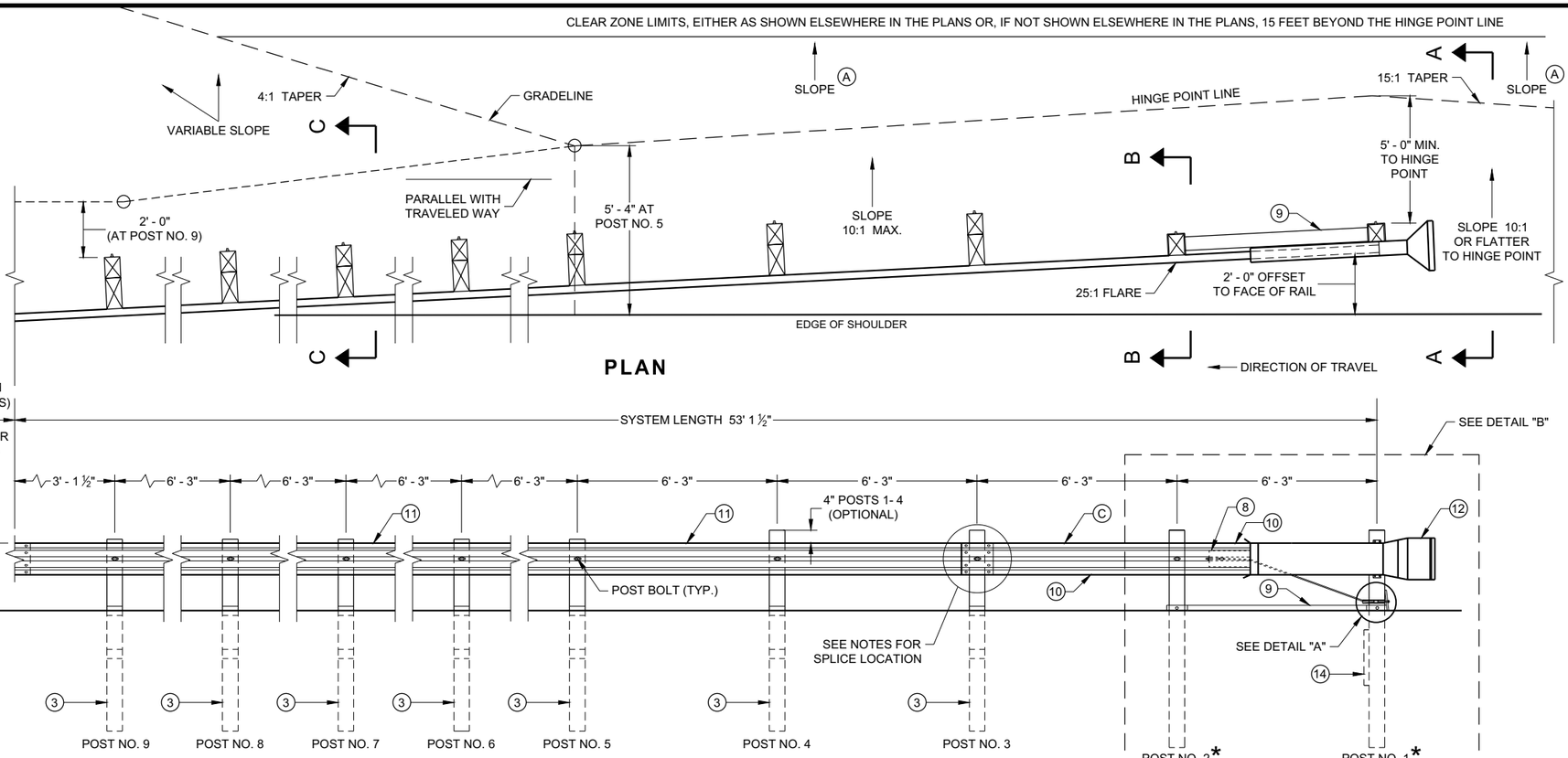
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

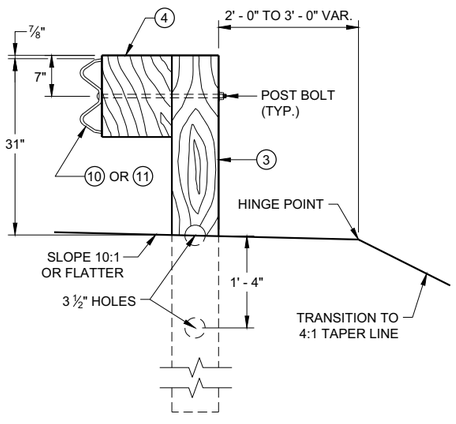
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

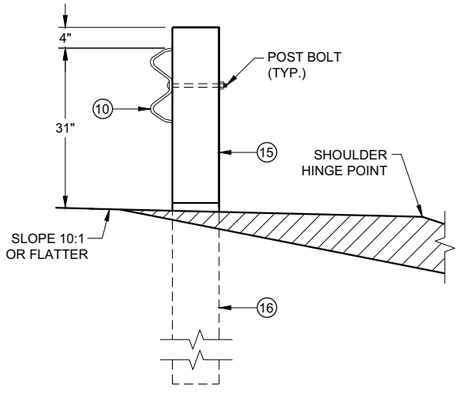



DETAIL "A" (E)

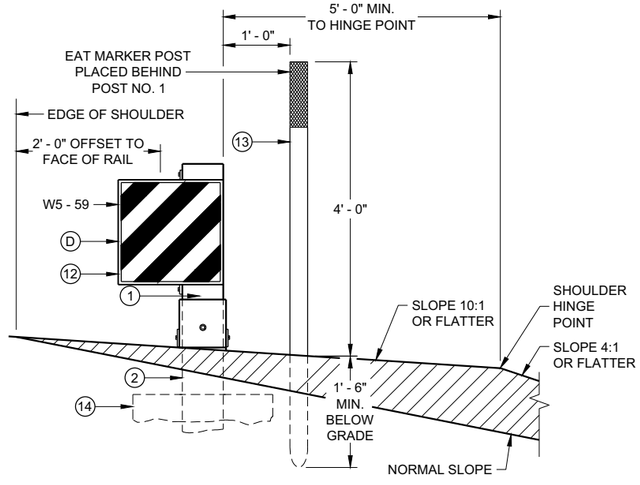


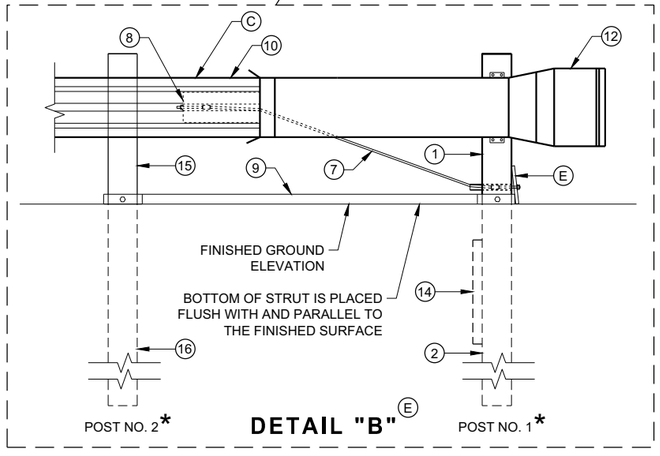

SECTION C - C
TYPICAL AT POST NOS. 3 - 9




SECTION B - B
TYPICAL AT POST NO. 2*




SECTION A - A
TYPICAL AT POST NO. 1*



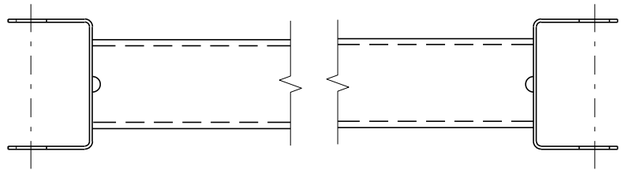

**MIDWEST GUARDRAIL SYSTEM**
**ENERGY ABSORBING TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SDD 14B44 - 04a

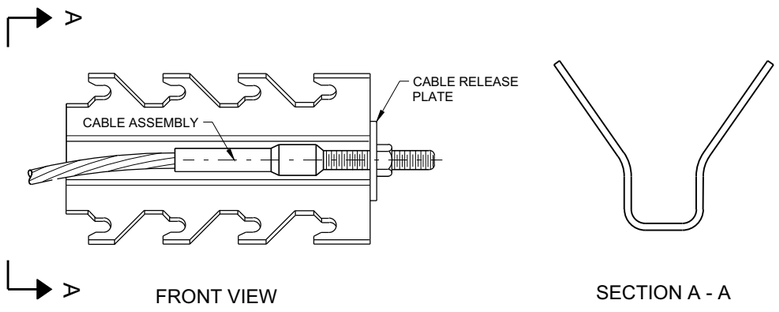
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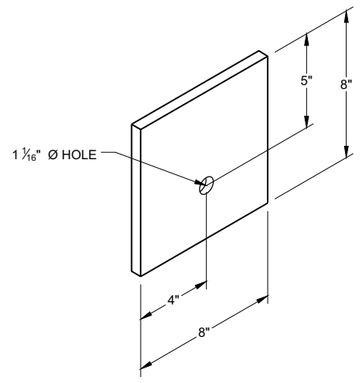
GENERIC GROUND STRUT (9) (E)

## BILL OF MATERIALS

| PART NO. | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION. |
|---|---|
| (1) | UPPER POST NO. 1 6" X 6" TUBE |
| (2) | LOWER POST NO. 1 |
| (3) | WOOD CRT |
| (4) | WOOD BLOCKOUT |
| (5) | PIPE SLEEVE |
| (6) | BEARING PLATE |
| (7) | BCT CABLE ASSEMBLY |
| (8) | ANCHOR CABLE BOX |
| (9) | GROUND STRUT |
| (10) | PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG. |
| (11) | STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED.<br>SECTIONS VARY IN LENGTH. |
| (12) | IMPACT HEAD |
| (13) | EAT MARKER POST - YELLOW<br>(SEE APPROVED PRODUCTS LIST) |
| (14) | SOIL PLATE |
| (15) | UPPER POST NO. 2 |
| (16) | LOWER POST NO. 2 |




GENERIC ANCHOR CABLE BOX (9) (E)




BEARING PLATE (6) (E)

6

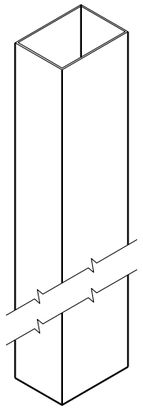
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SDD 14B44 - 04b

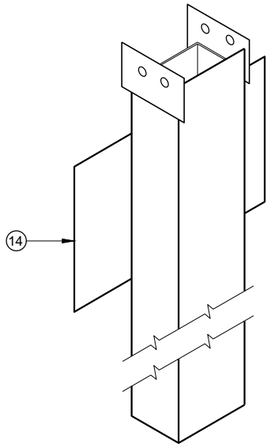
SDD 14B44 - 04b

**MIDWEST GUARDRAIL SYSTEM**
**ENERGY ABSORBING TERMINAL**
**(MGS)**

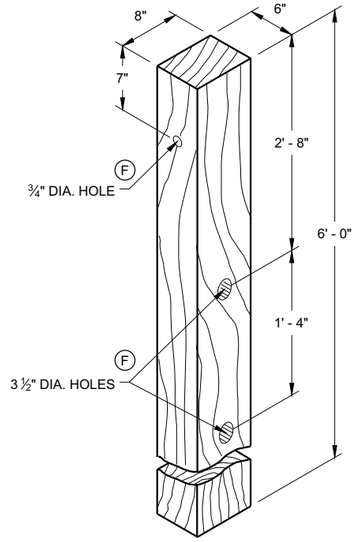
STATE OF WISCONSIN
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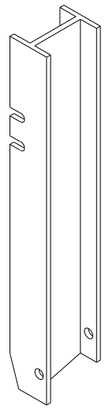
**UPPER POST NO. 1** (1) (E)



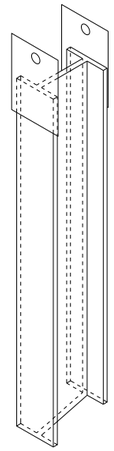

**LOWER POST NO. 1** (2) (E)



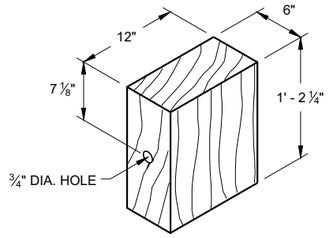

**WOOD CRT POST** (3) (E)
POSTS NUMBER 3-9



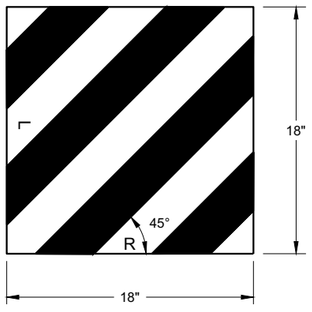
**UPPER POST NO. 2** (15) (E)



**LOWER POST NO. 2** (16) (E)

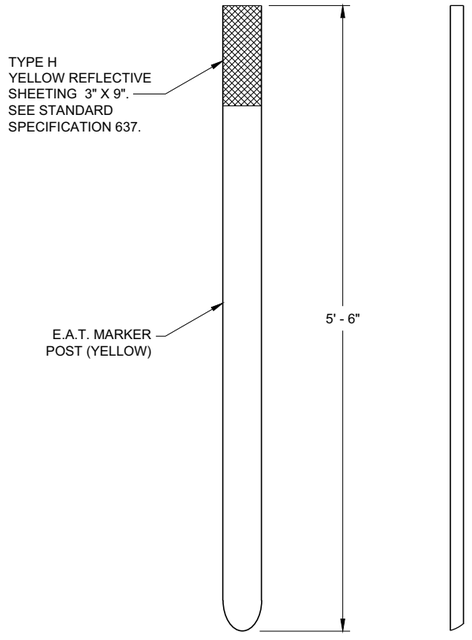



**WOOD BLOCKOUT** (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



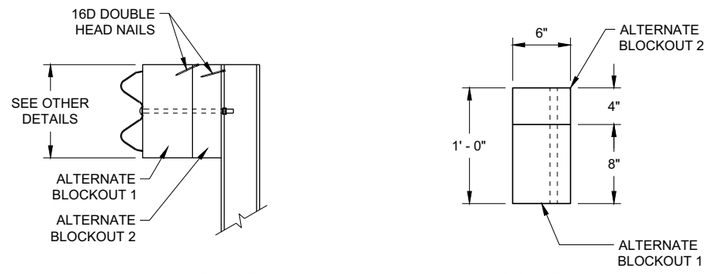

W5 - 59

**REFLECTIVE SHEETING DETAIL** (E)




FRONT VIEW SIDE VIEW

**E.A.T. MARKER POST** (13)




SIDE VIEW TOP VIEW

**ALTERNATE WOOD BLOCKOUT DETAIL**

**MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

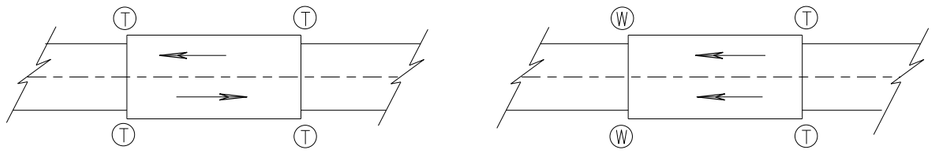
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA




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SDD 14B44 - 04c




**TWO WAY TRAFFIC**




**ONE WAY TRAFFIC**

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

## TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

## GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

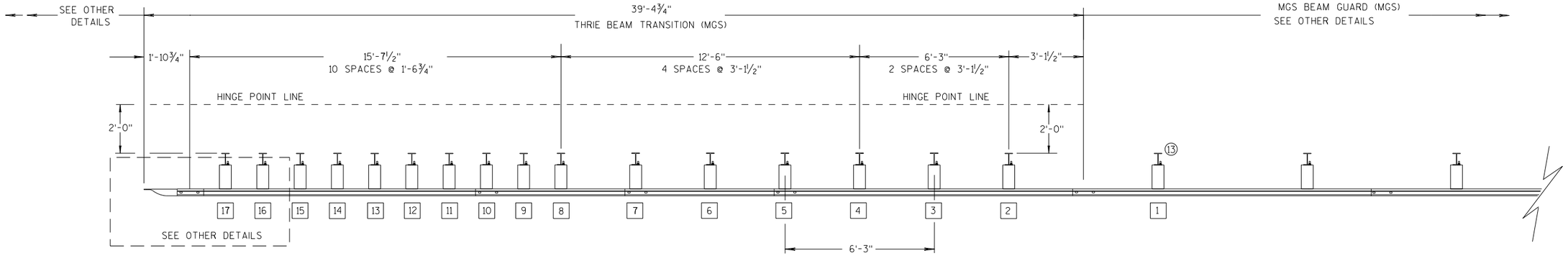
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

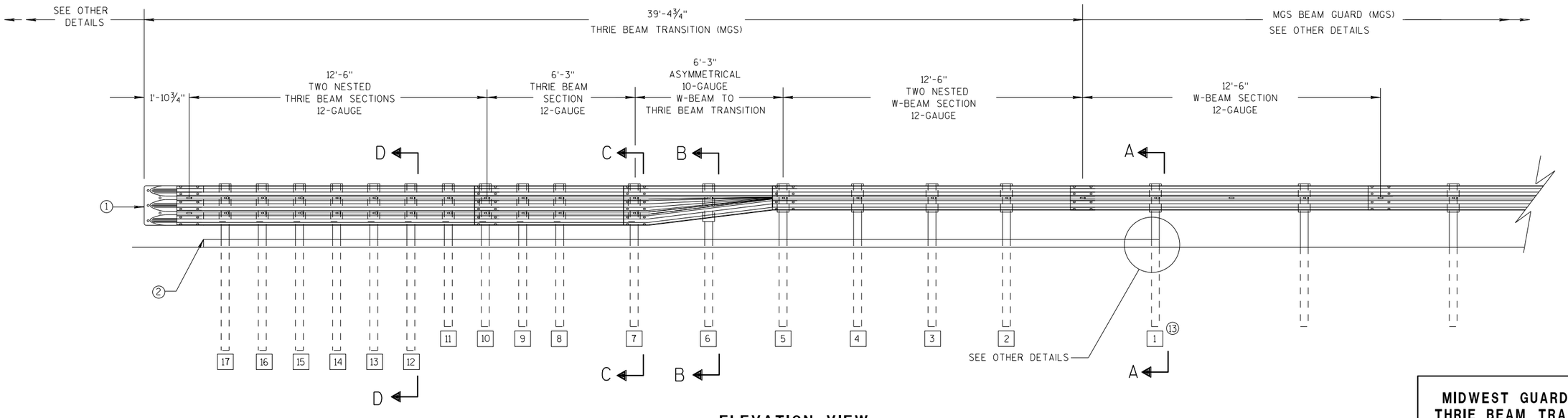
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42




**PLAN VIEW**




**ELEVATION VIEW**

## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR







6

S.D.D. 14 B 45-5a

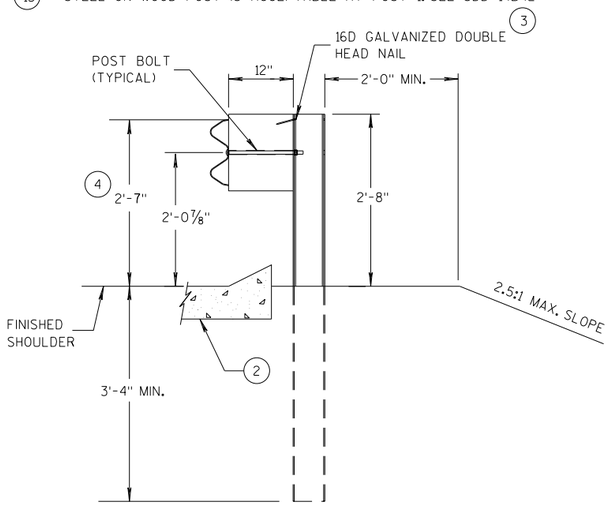
## GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

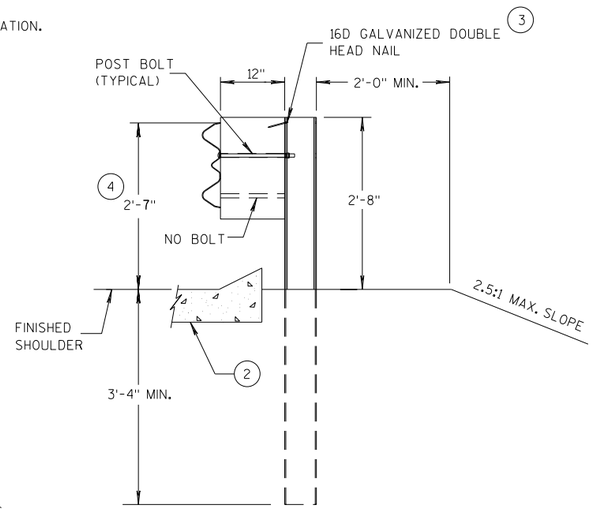
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



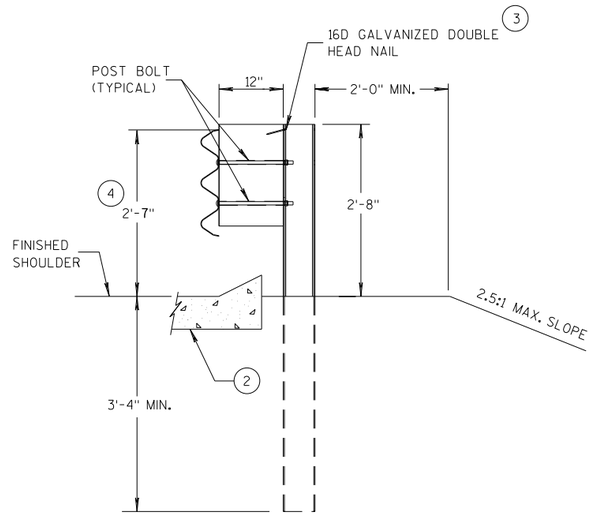

SECTION A-A (13)

**POSTS 1-5**



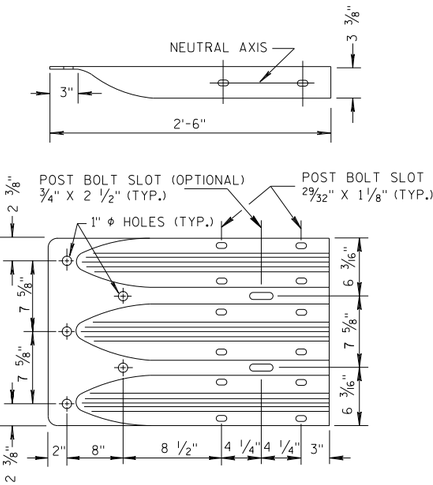

SECTION B-B

**POST 6**

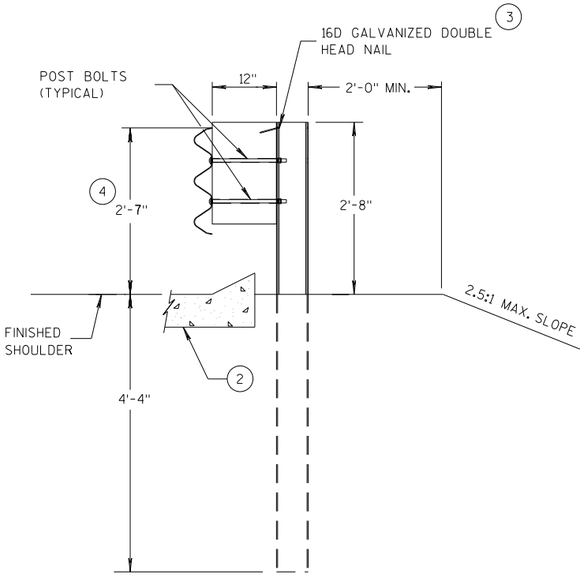



SECTION C-C

**POSTS 7-11**

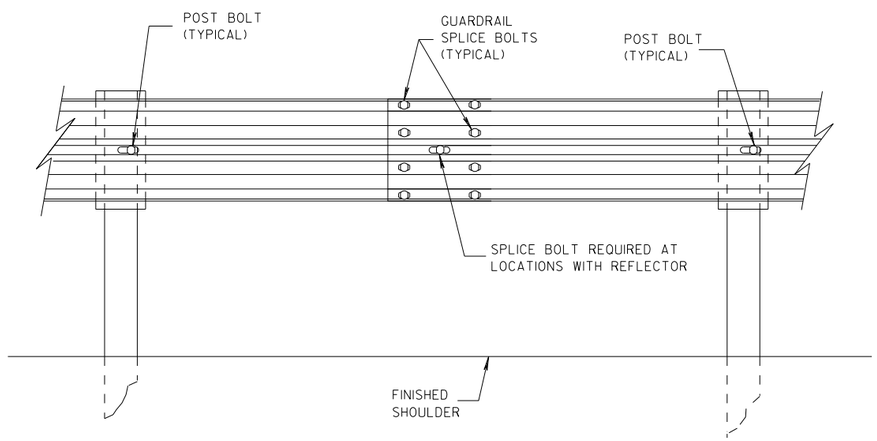



**THRIE BEAM TERMINAL CONNECTOR**




SECTION D-D

**POSTS 12-17**




**SPLICE DETAIL**

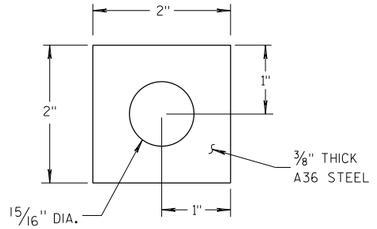
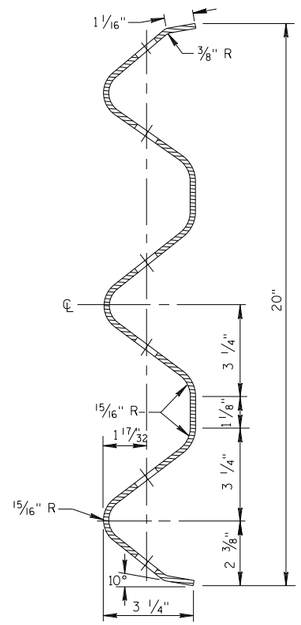



**PLATE WASHER DETAIL**




**SECTION THRU THRIE BEAM RAIL ELEMENT**

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

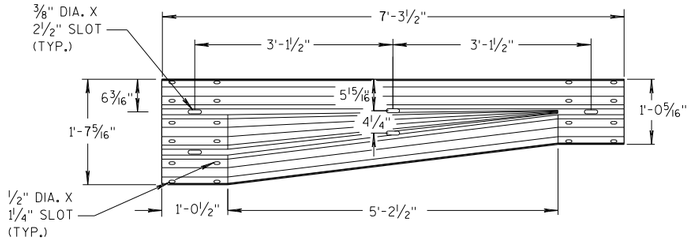
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 147

6

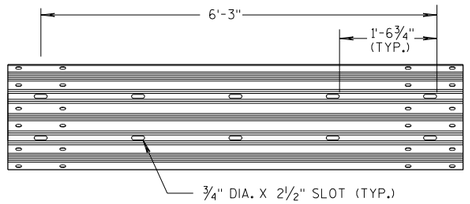
S.D.D. 14 B 45-5b

6

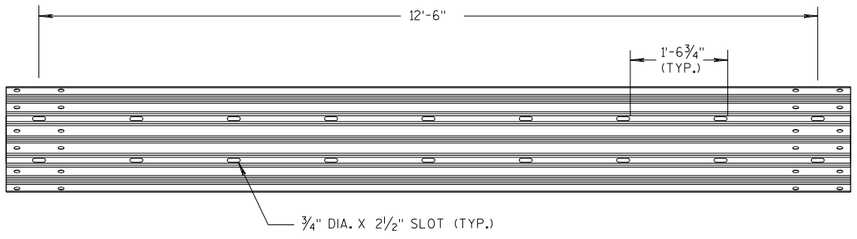
S.D.D. 14 B 45-5b



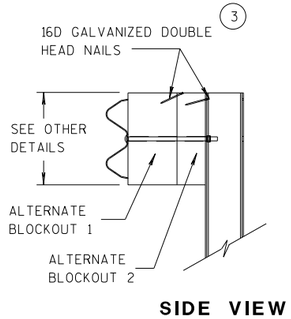

## W-BEAM TO THRIE BEAM TRANSITION SECTION



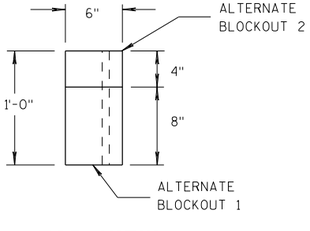

## 6'-3" THRIE BEAM SECTION




## 12'-6" THRIE BEAM SECTION

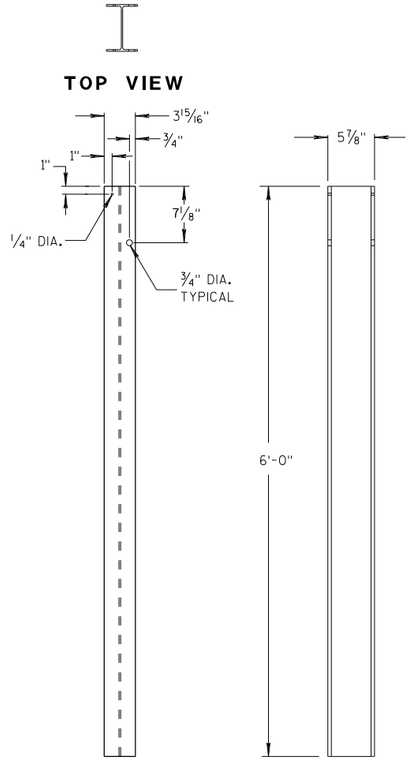



SIDE VIEW



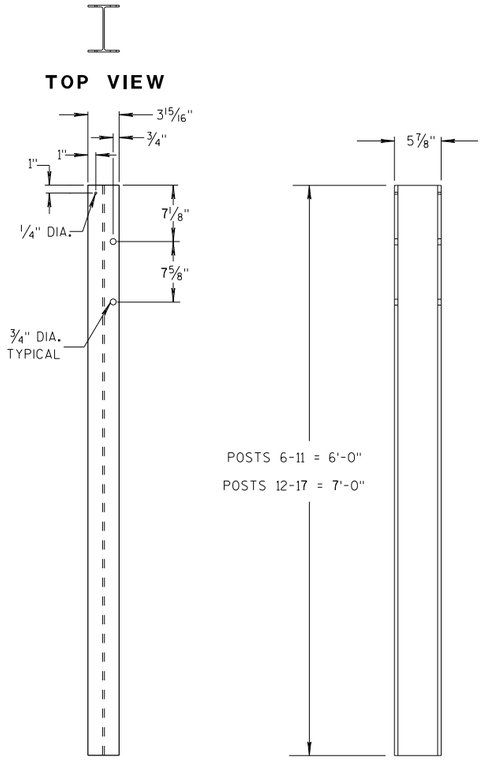

TOP VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL



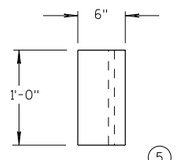

FRONT VIEW SIDE VIEW

## STEEL POSTS 1-5 (13)

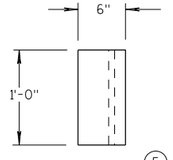



FRONT VIEW SIDE VIEW

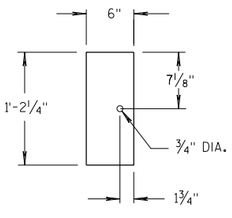
## STEEL POSTS 6-17




TOP VIEW (5)

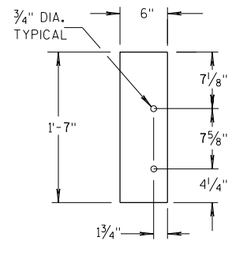



TOP VIEW (5)




FRONT VIEW

## BLOCKOUT POSTS 1-5




FRONT VIEW

## BLOCKOUT POSTS 6-17

## GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

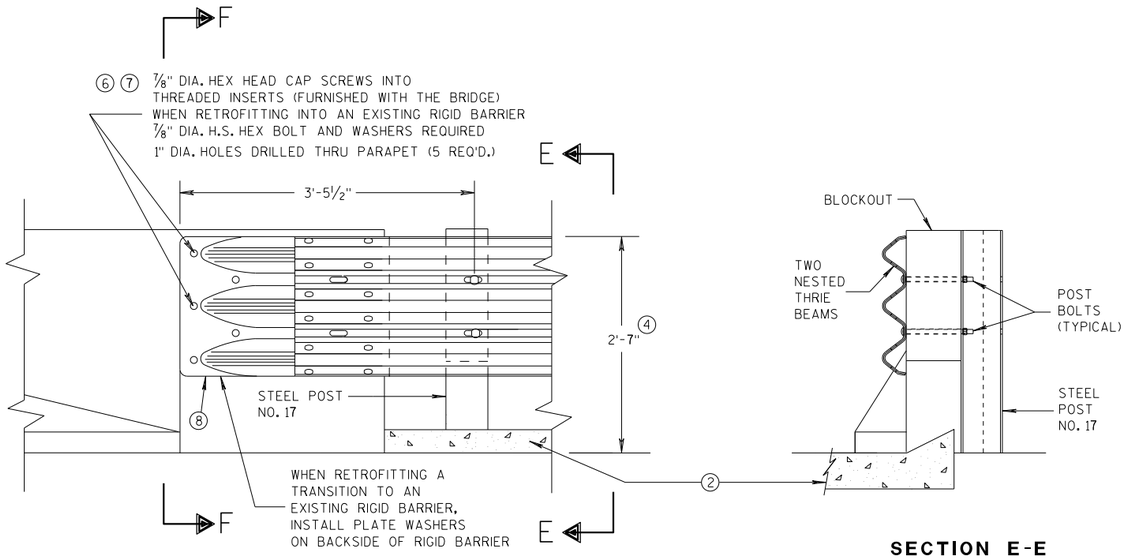
**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF




6

S.D.D. 14 B 45-5c




FRONT VIEW

SECTION E-E

# THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

## GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

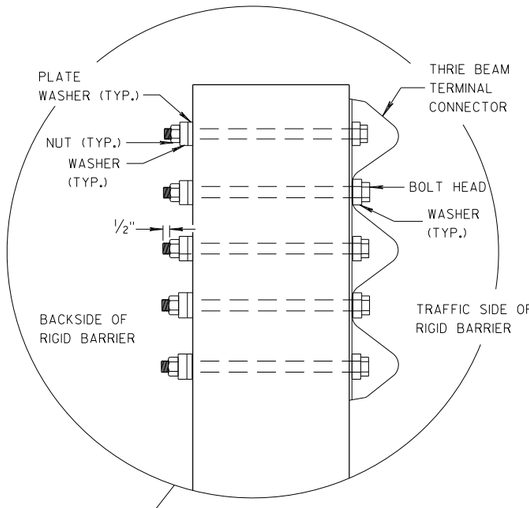
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

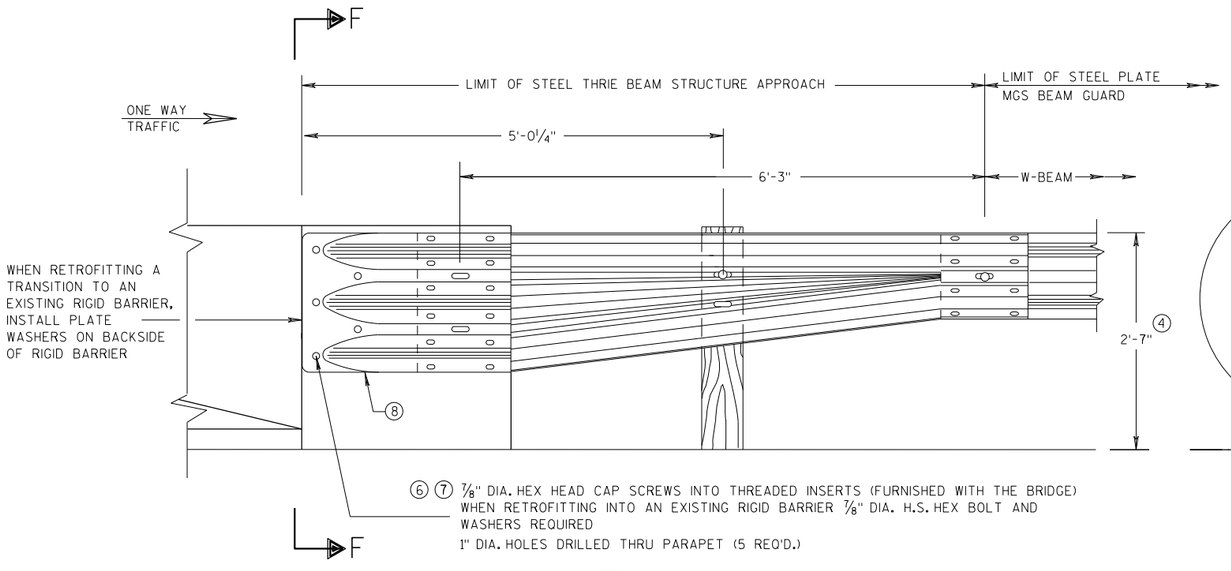
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

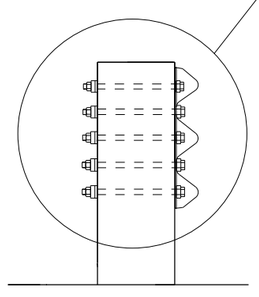
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

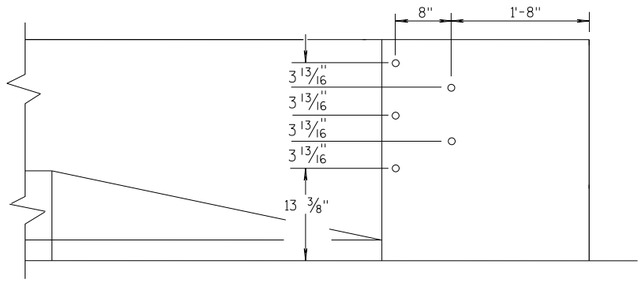



FRONT VIEW



SECTION F-F




DRILL HOLE LOCATION

# W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

**(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)**

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D UNIT SUPERVIS ...NT
FHWA



6

S.D.D. 14 B 45-5d

6

S.D.D. 14 B 45-5d

# GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

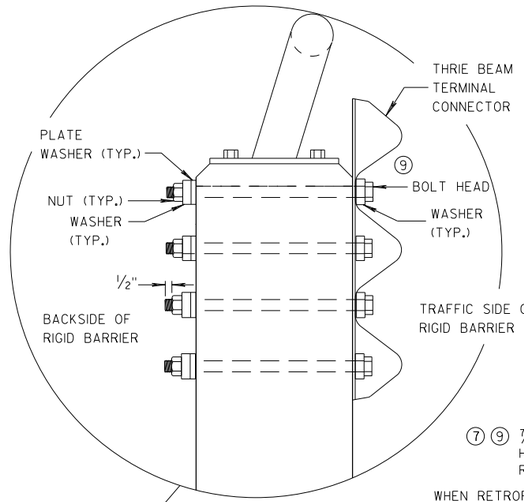
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

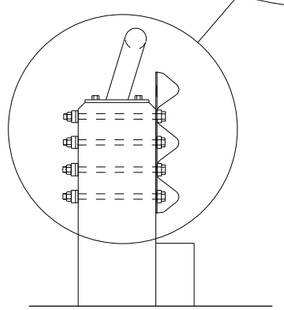
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

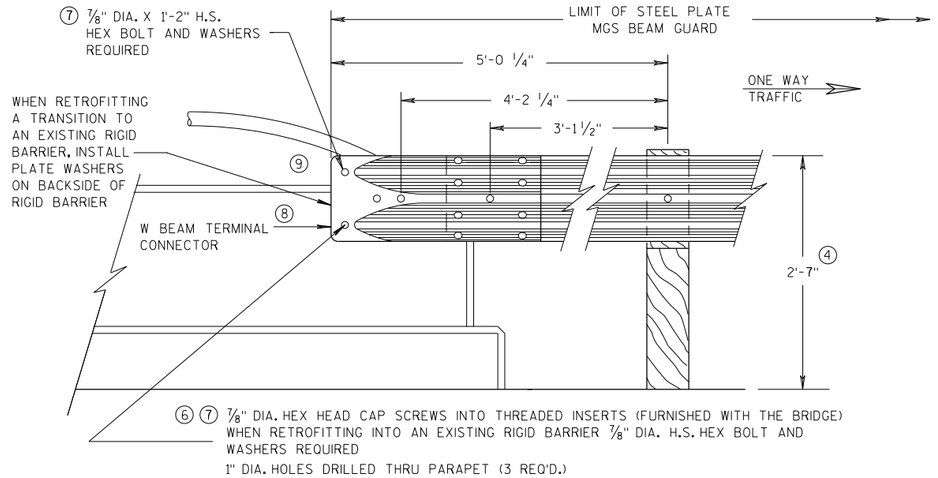
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



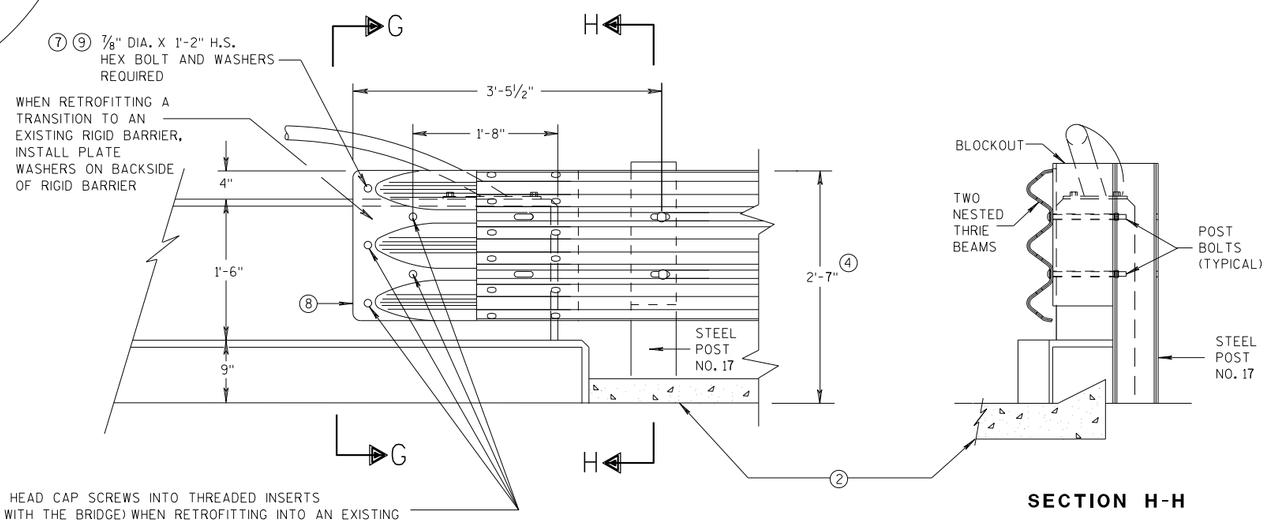
SECTION G-G




FRONT VIEW

## W BEAM CONNECTION TO VERTICAL FACE PARAPET

### (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)




FRONT VIEW




SECTION H-H

## THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS

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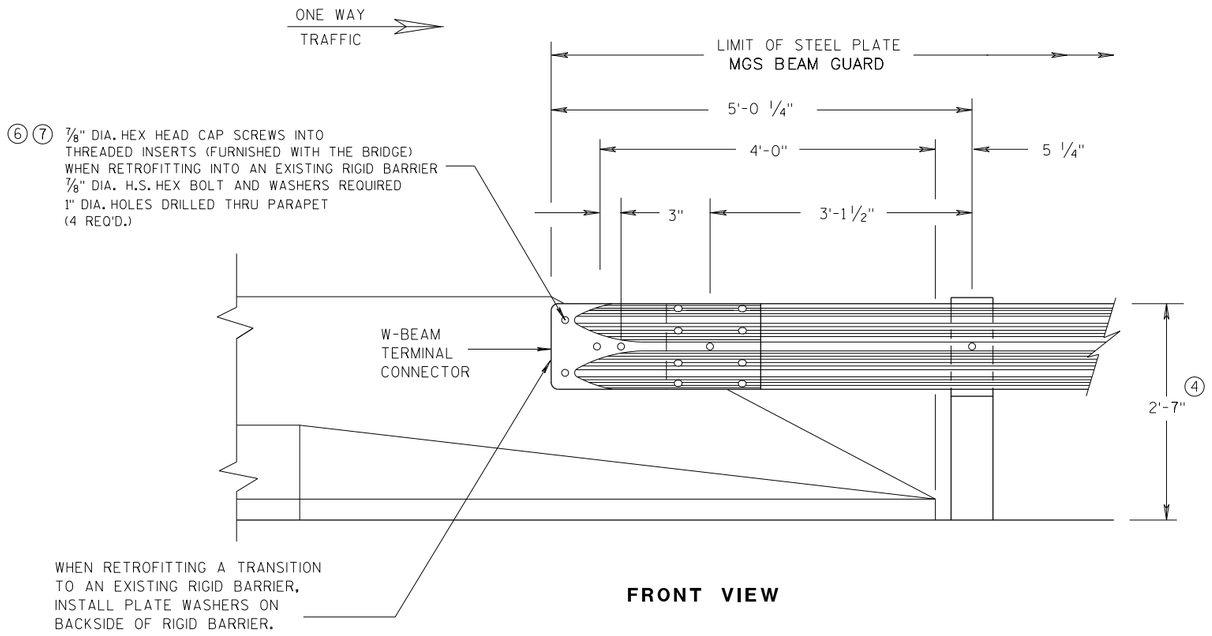
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S.D.D. 14 B 45-5e

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S.D.D. 14 B 45-5e




FRONT VIEW

## W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

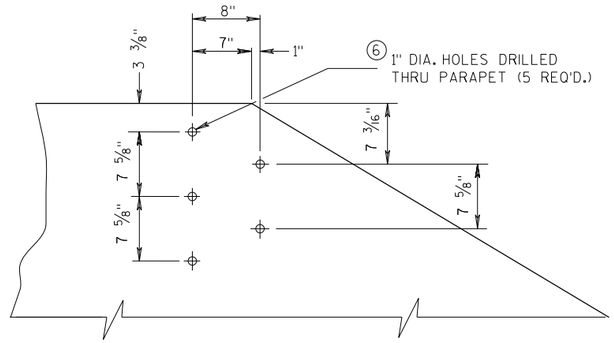
## GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

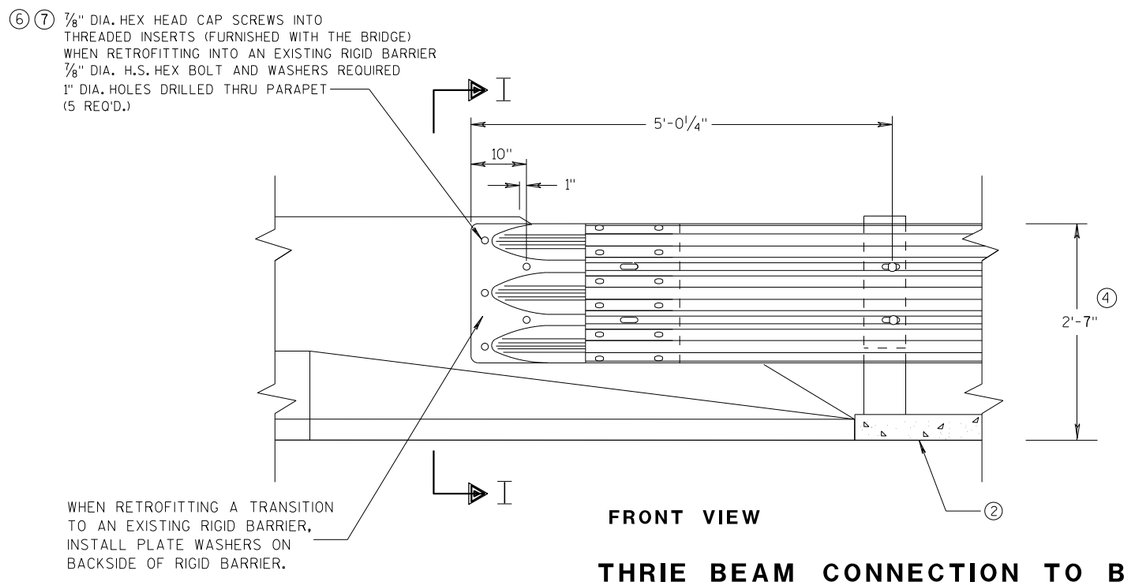
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

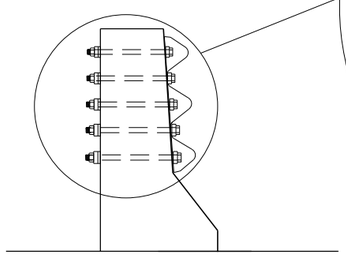
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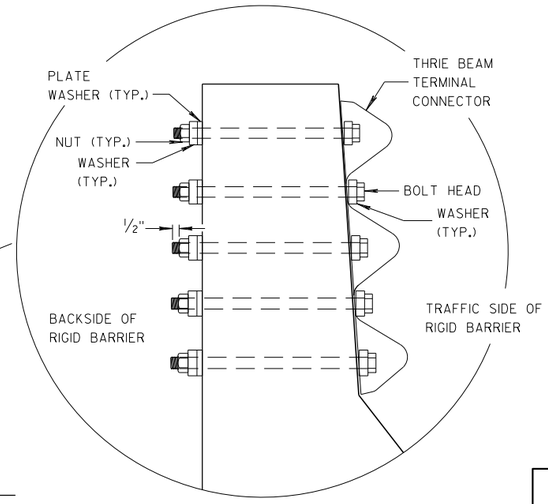

DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION




FRONT VIEW



SECTION I-I




## THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

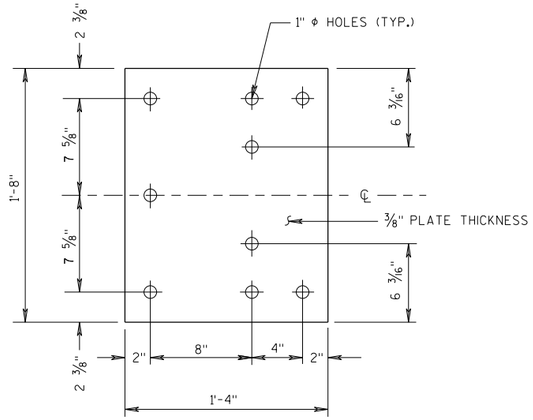
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

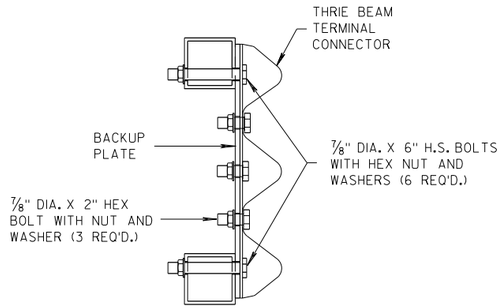




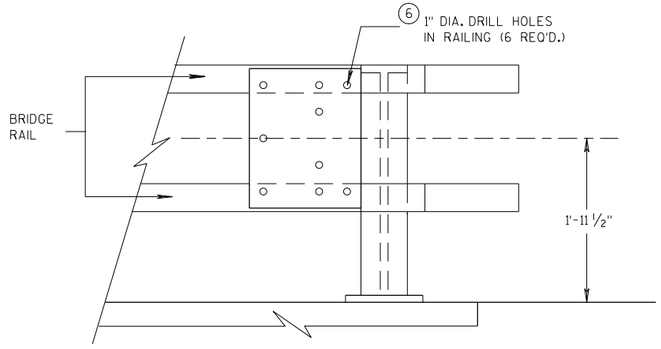
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S.D.D. 14 B 45-5f




## BACK-UP PLATE DETAIL




## SECTION J-J

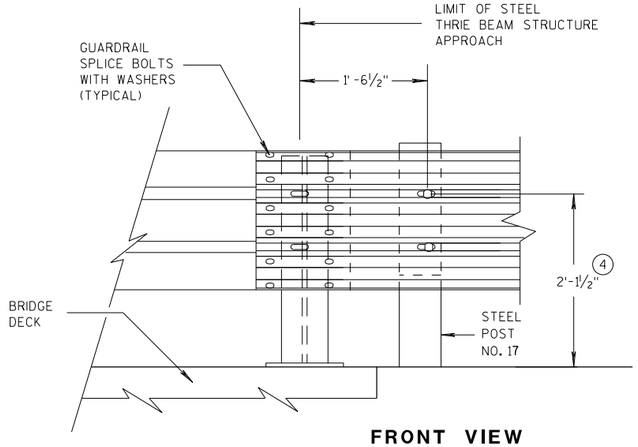



## BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

# GENERAL NOTES

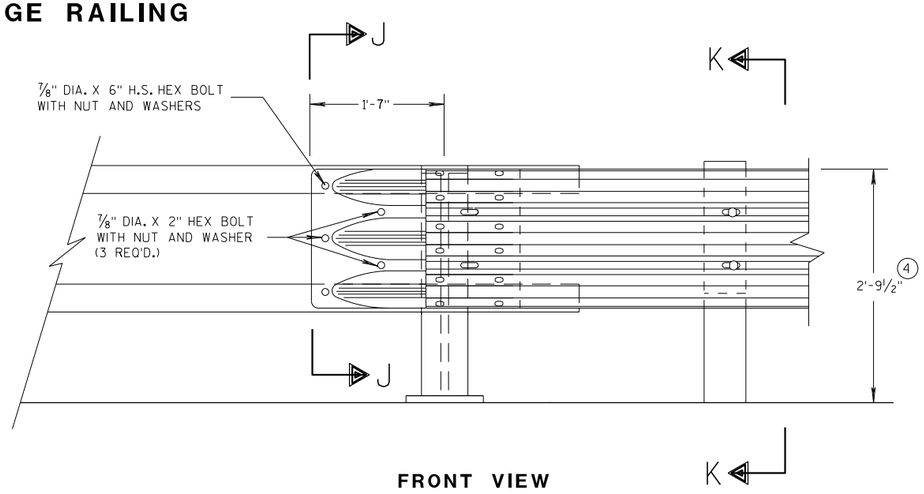
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

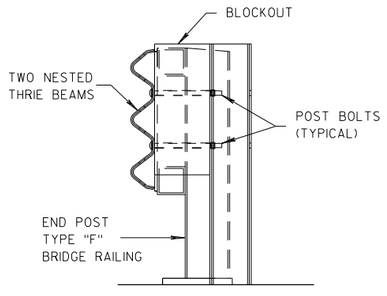



FRONT VIEW

## THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"




FRONT VIEW




SECTION K-K

## THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE — FHWA

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

152

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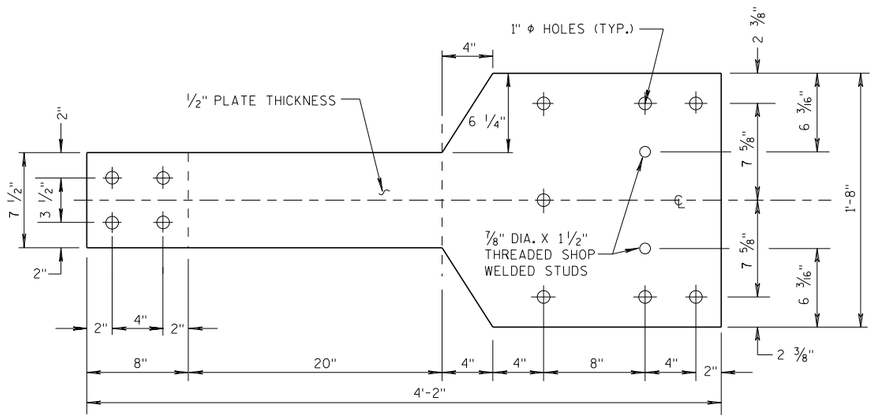
S.D.D. 14 B 45-5g

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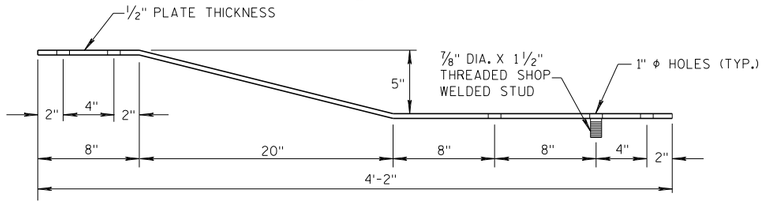
S.D.D. 14 B 45-5g

## GENERAL NOTES

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

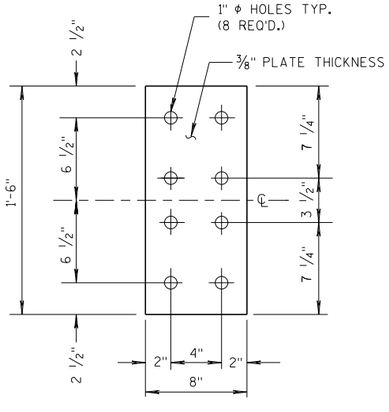



FRONT VIEW



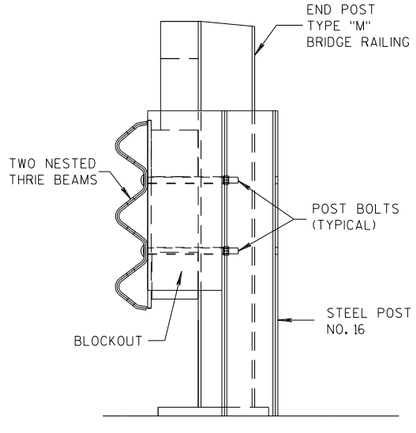

PLAN VIEW

## BACK-UP PLATE DETAIL, TYPE "M"

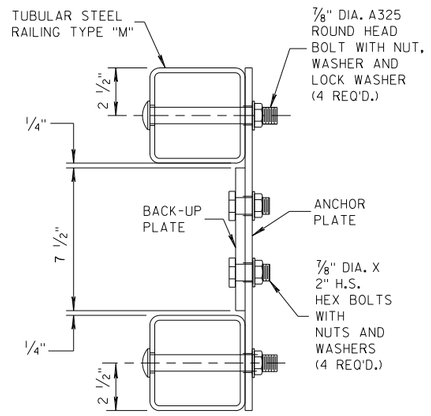



FRONT VIEW

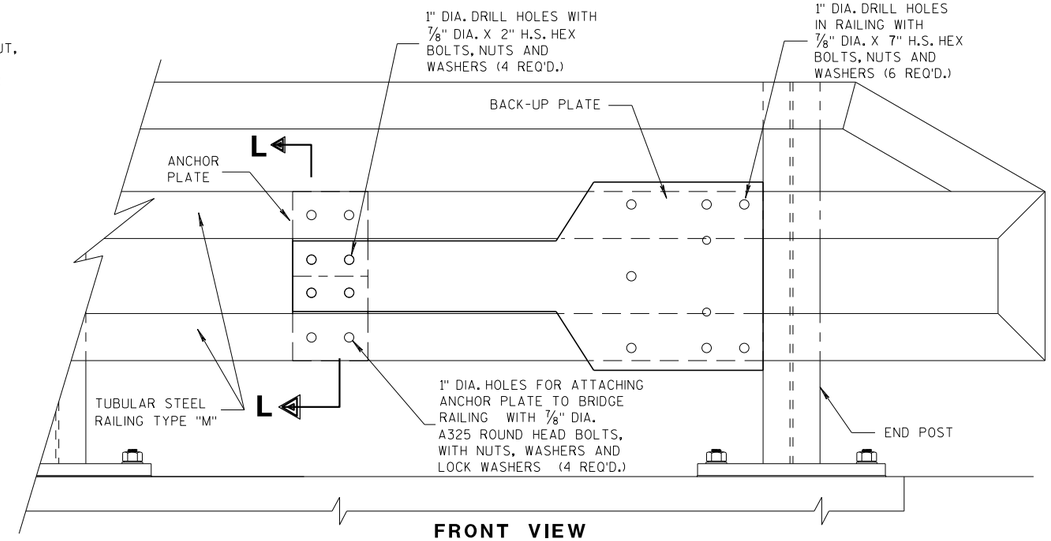
## ANCHOR PLATE DETAIL, TYPE "M"




SECTION M-M

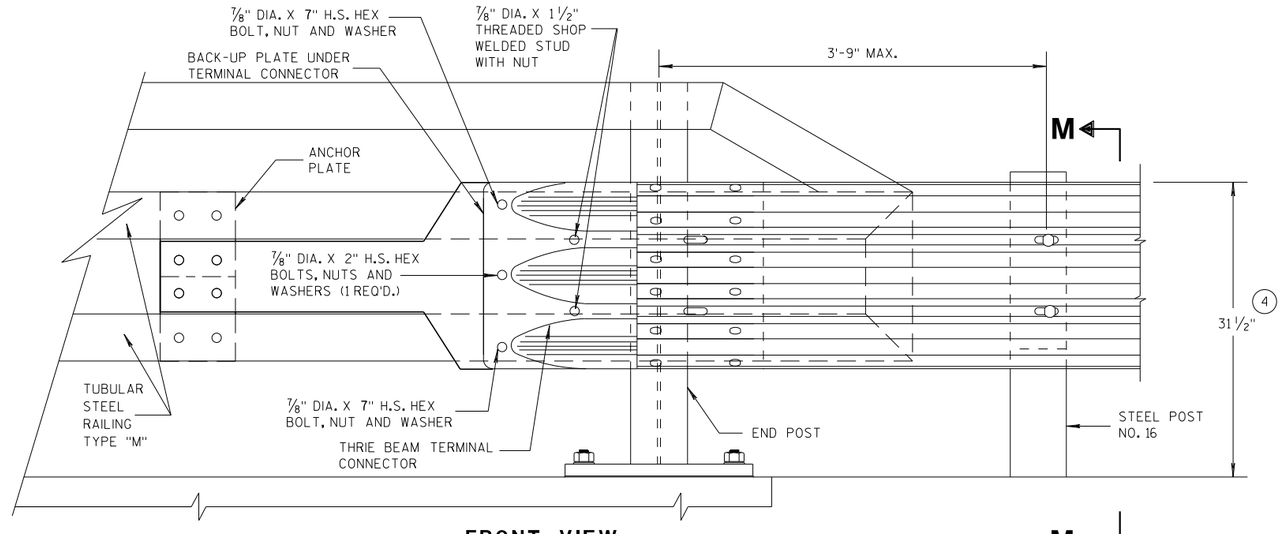



SECTION L-L

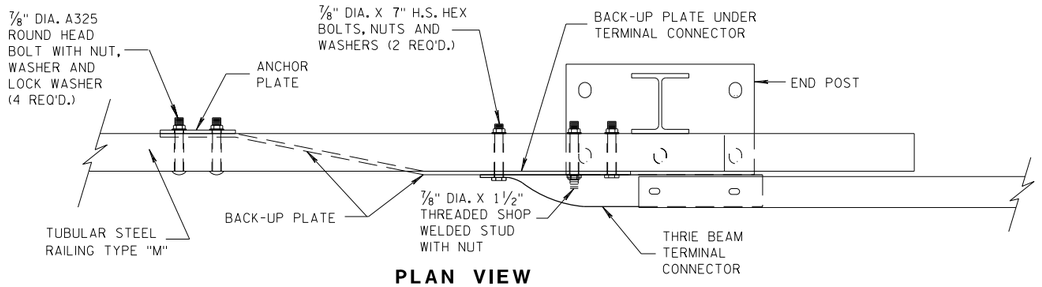



FRONT VIEW

## ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"




FRONT VIEW




PLAN VIEW

## THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

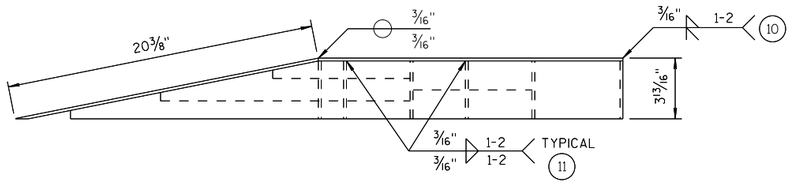


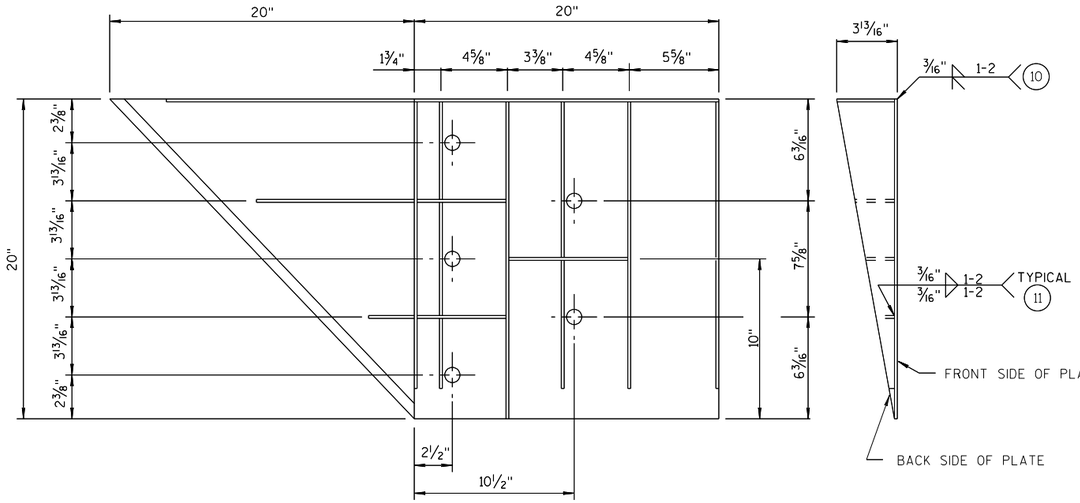
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S.D.D. 14 B 45-5h

6

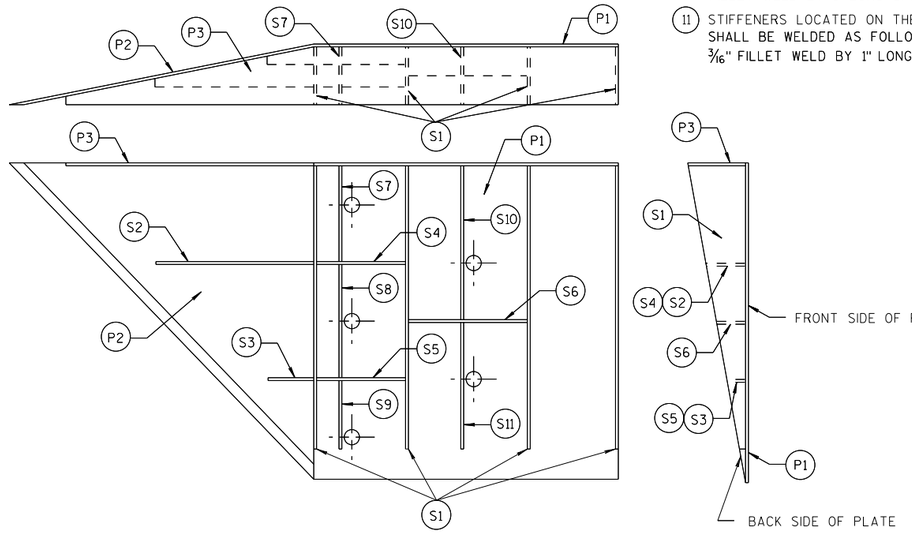
S.D.D. 14 B 45-5h




## WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)




## PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

## GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

**CONNECTOR PLATE DIMENSION (PER ASSEMBLY)**

| PLATE | QUANTITY | SHAPE | SIZE (A x B x C x D) | THICKNESS |
|---|---|---|---|---|
| P1 | 1 | | 20" x 20" | 3/16" |
| P2 | 1 | | 20" x 20" x 28 9/16" | 3/16" |
| P3 | 1 | | 39" x 3 5/8" x 20" x 19 5/16" | 3/16" |
| S1 | 4 | | 18 7/16" x 3 5/8" x 18 3/4" | 1/4" |
| S2 | 1 | | 10 1/4" x 2 7/16" x 10 3/8" x 1/2" | 1/4" |
| S3 | 1 | | 3" x 1 1/16" x 3 1/8" x 1/2" | 1/4" |
| S4 | 1 | | 6 1/8" x 2 7/16" | 1/4" |
| S5 | 1 | | 6 1/8" x 1 1/16" | 1/4" |
| S6 | 1 | | 7 3/4" x 1 3/4" | 1/4" |
| S7 | 1 | | 2 9/16" x 6" x 3 5/8" x 5 7/8" | 1/4" |
| S8 | 1 | | 1 5/32" x 7 1/2" x 2 1/2" x 7 3/8" | 1/4" |
| S9 | 1 | | 6 1/16" x 6 3/16" x 1 3/32" | 1/4" |
| S10 | 1 | | 1 7/8" x 9 7/8" x 3 5/8" x 9 11/16" | 1/4" |
| S11 | 1 | | 8 1/2" x 8 3/4" x 1 13/16" | 1/4" |

## SINGLE SLOPE CONNECTION PLATE

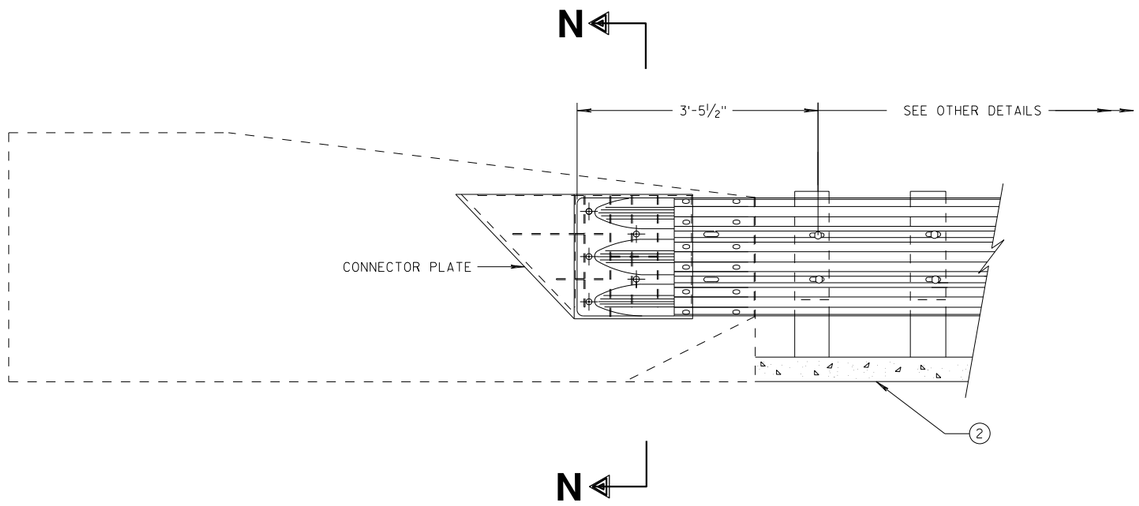
**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

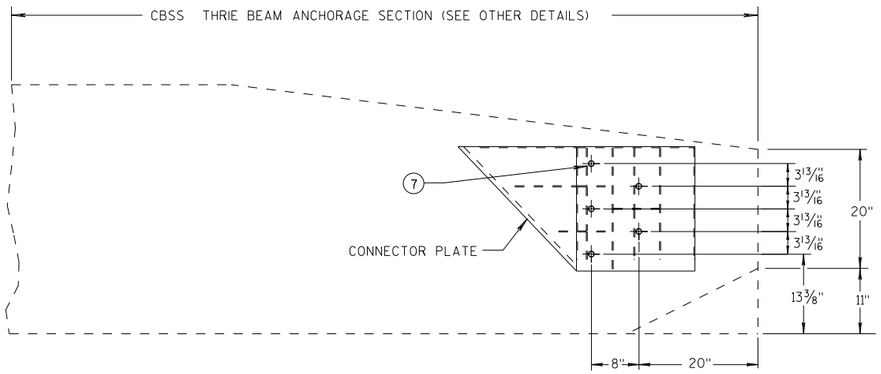
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS I ENT
UNIT SUPERVI
FHWA




6
S.D.D. 14 B 45-5i




## THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



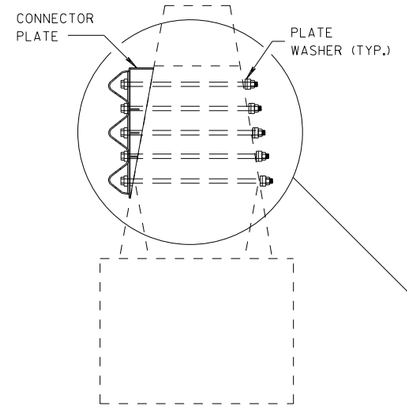

## SINGLE SLOPE CONNECTION PLATE PLACEMENT

## GENERAL NOTES

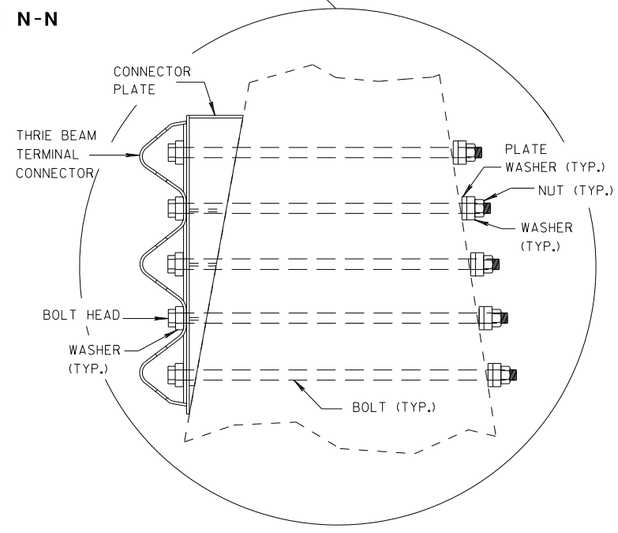
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.




SECTION N-N




**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

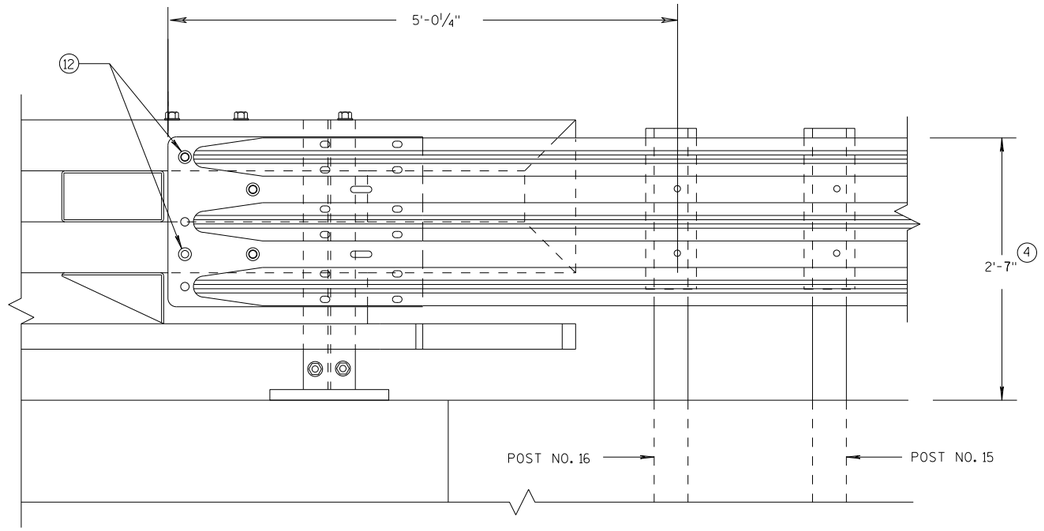
APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DI
UNIT SUPERVIS



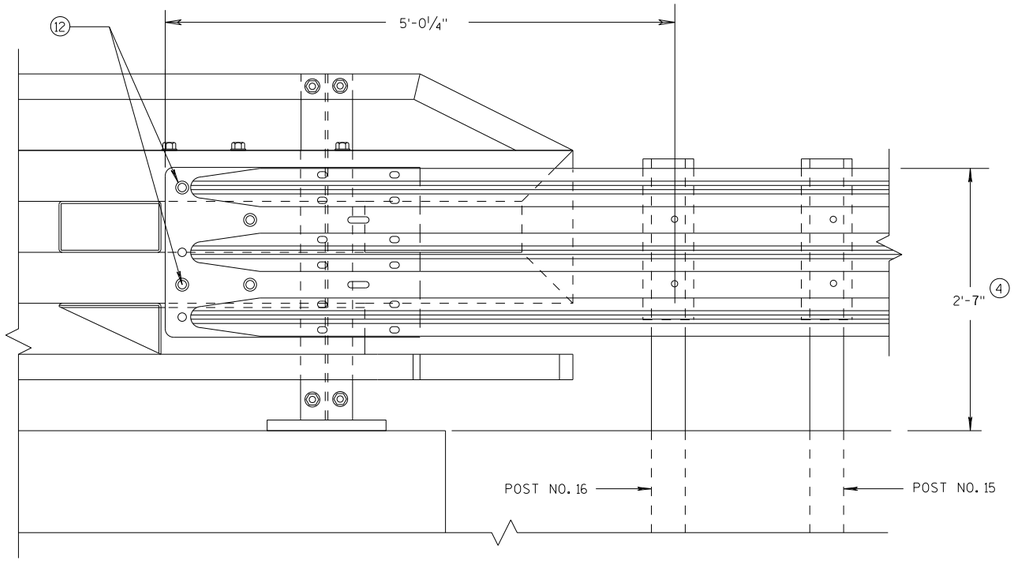

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S.D.D. 14 B 45-5j




## ELEVATION OF DETAIL AT NY3 END POST

### THRIE BEAM RAIL ATTACHMENT




## ELEVATION OF DETAIL AT NY4 END POST

### THRIE BEAM RAIL ATTACHMENT

## GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS



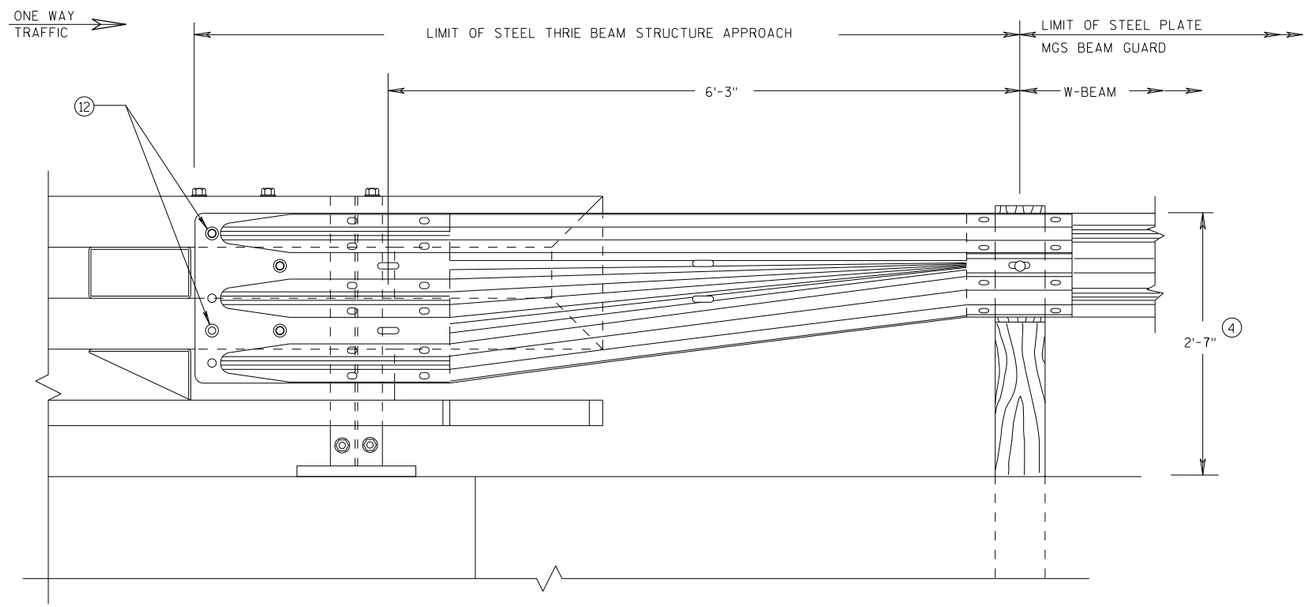
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S.D.D. 14 B 45-5k

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S.D.D. 14 B 45-5k




FRONT VIEW

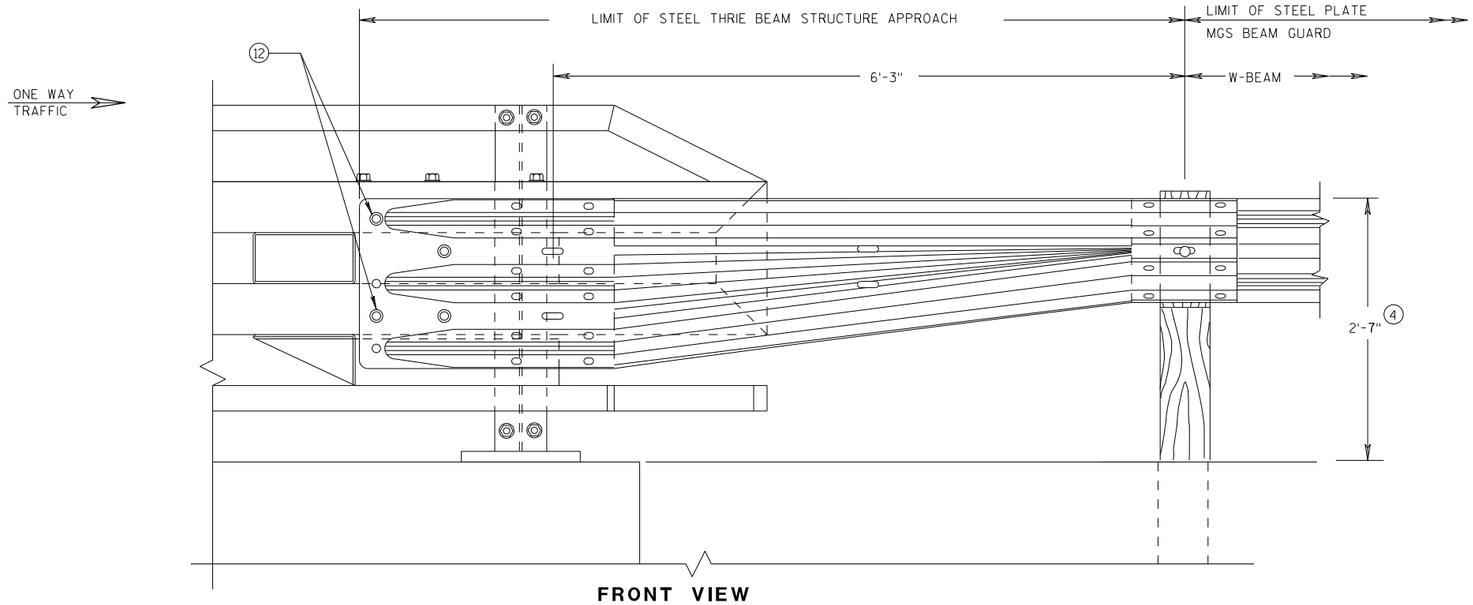
## W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

## GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND $\frac{1}{2}$-INCH BEYOND NUT.




FRONT VIEW

## W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS

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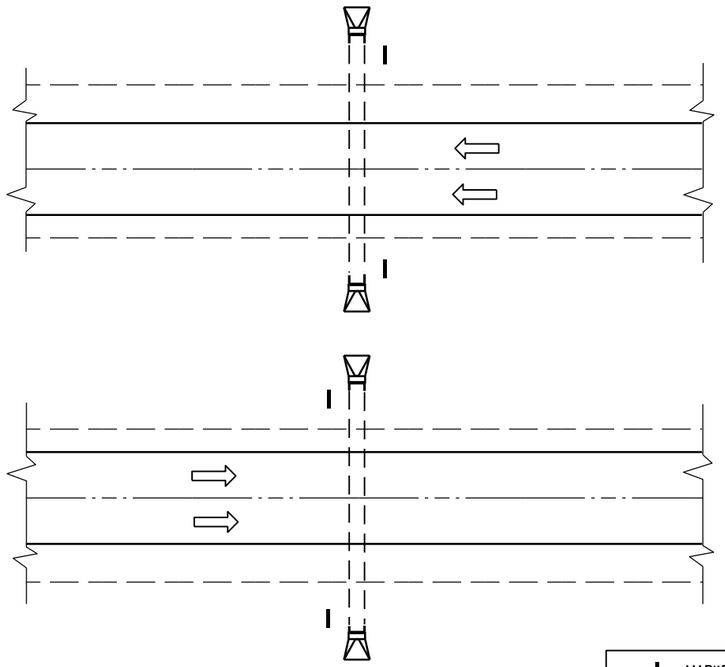


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S.D.D. 14 B 45-5L

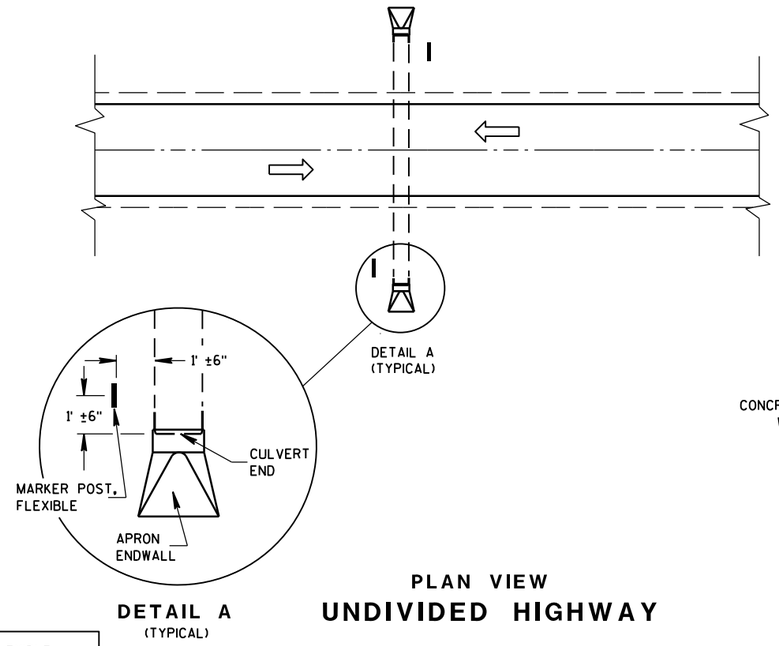
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S.D.D. 14 B 45-5L



PLAN VIEW

## DIVIDED HIGHWAY




DETAIL A
(TYPICAL)

PLAN VIEW

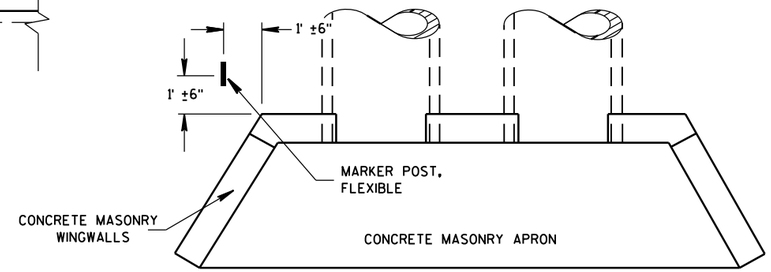
## UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

## GENERAL NOTES

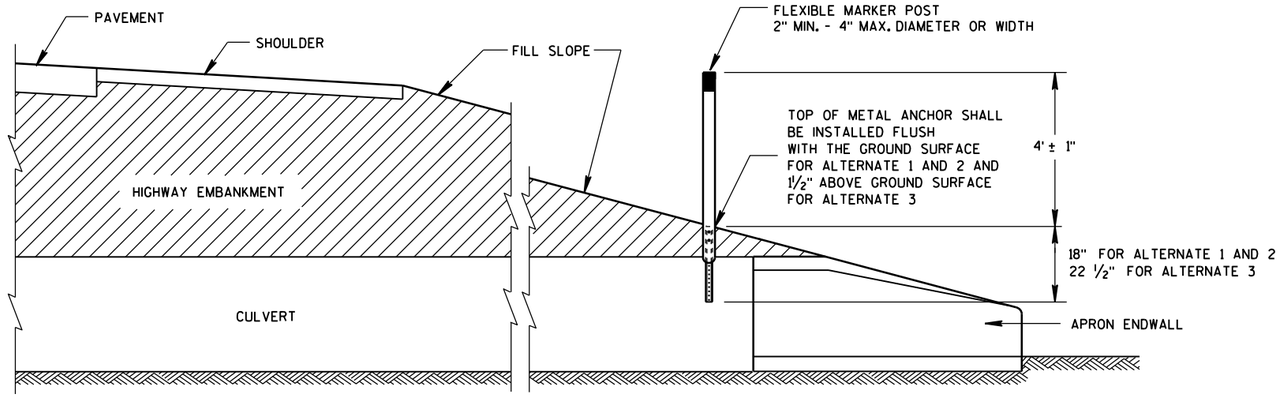
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.




PLAN VIEW

## CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

## FLEXIBLE MARKER POST LOCATION




CROSS SECTION

## FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

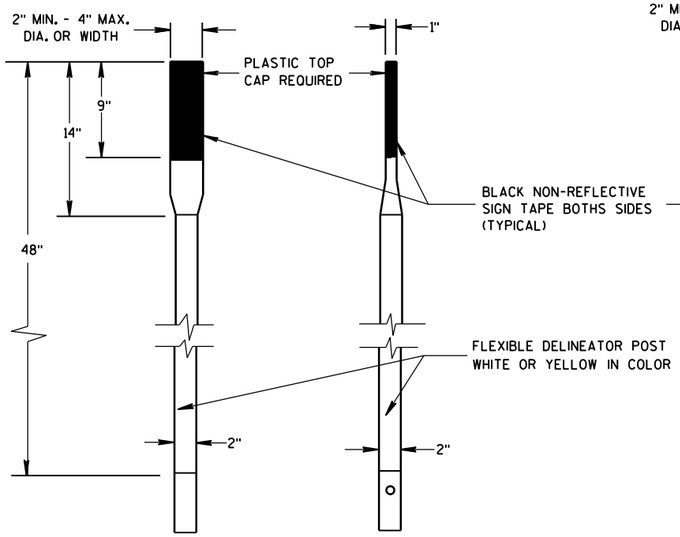


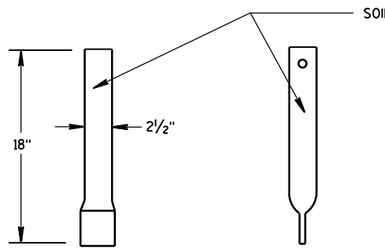
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S.D.D. 15 A 3-2a

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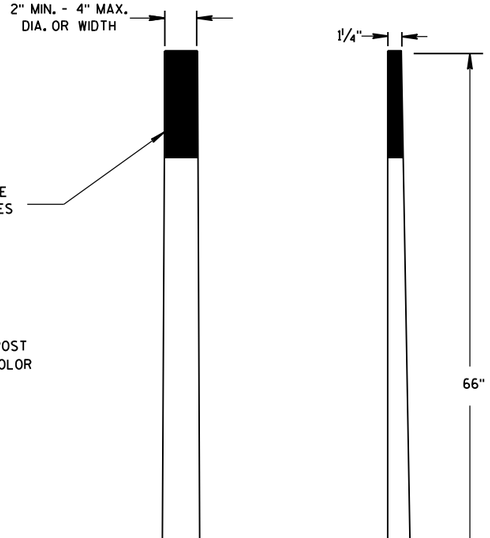
S.D.D. 15 A 3-2a



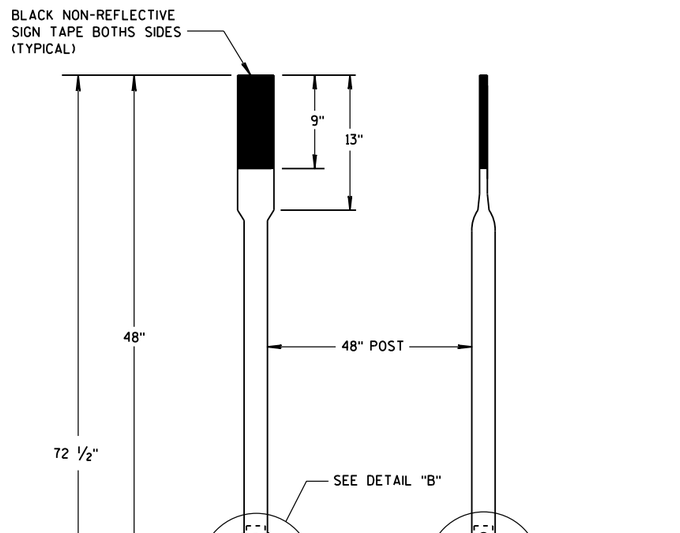

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

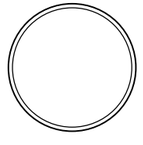
ALTERNATE 2



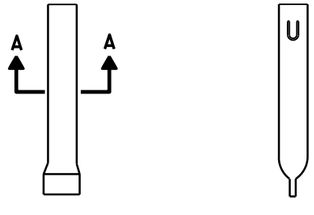

FRONT VIEW SIDE VIEW

ALTERNATE 3

## FLEXIBLE MARKER POSTS

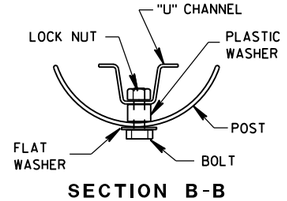


SECTION A-A

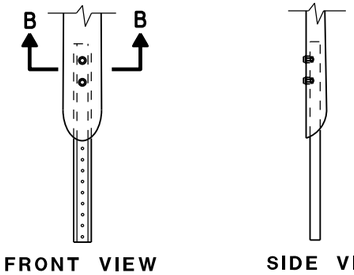



FRONT VIEW SIDE VIEW

ALTERNATE 1

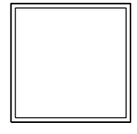



SECTION B-B

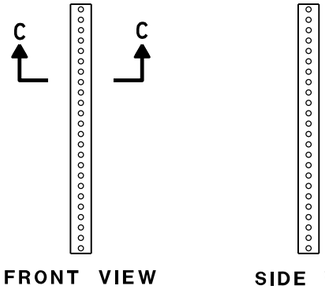



FRONT VIEW SIDE VIEW

ALTERNATE 2



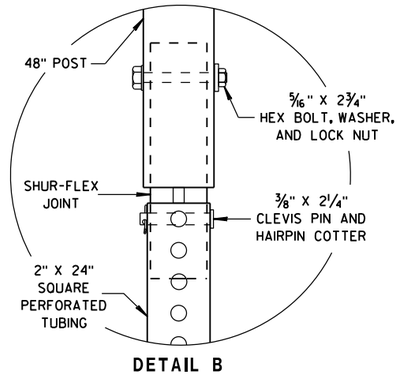
SECTION C-C



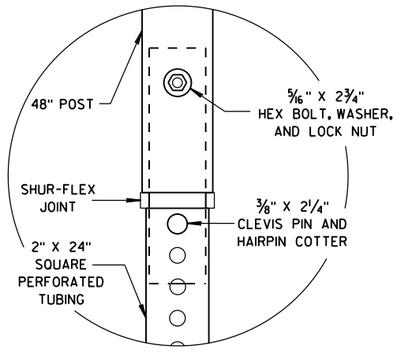

FRONT VIEW SIDE VIEW

ALTERNATE 3

## FLEXIBLE MARKER POST ANCHORS




DETAIL B




DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

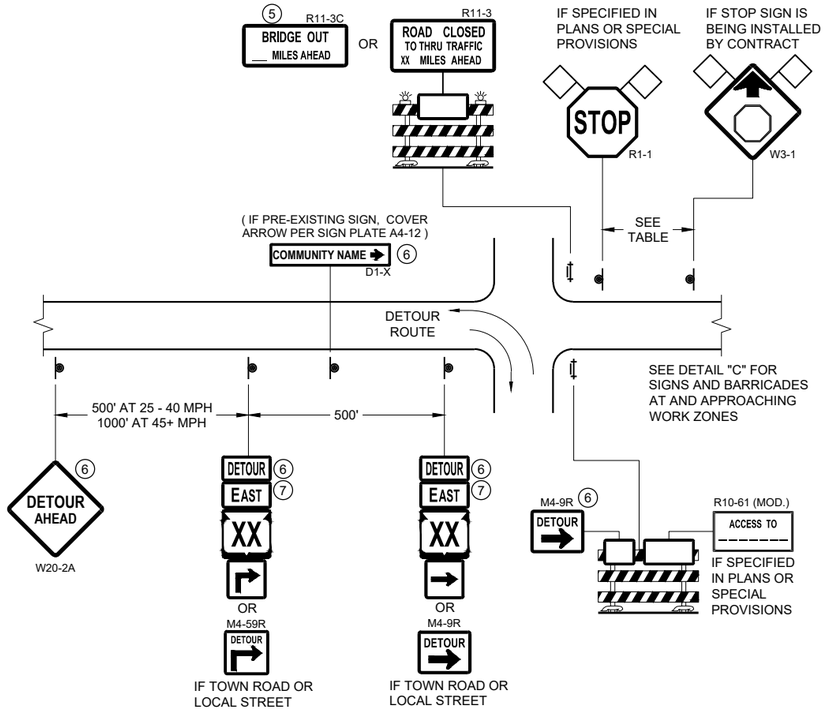


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S.D.D. 15 A 3-2b

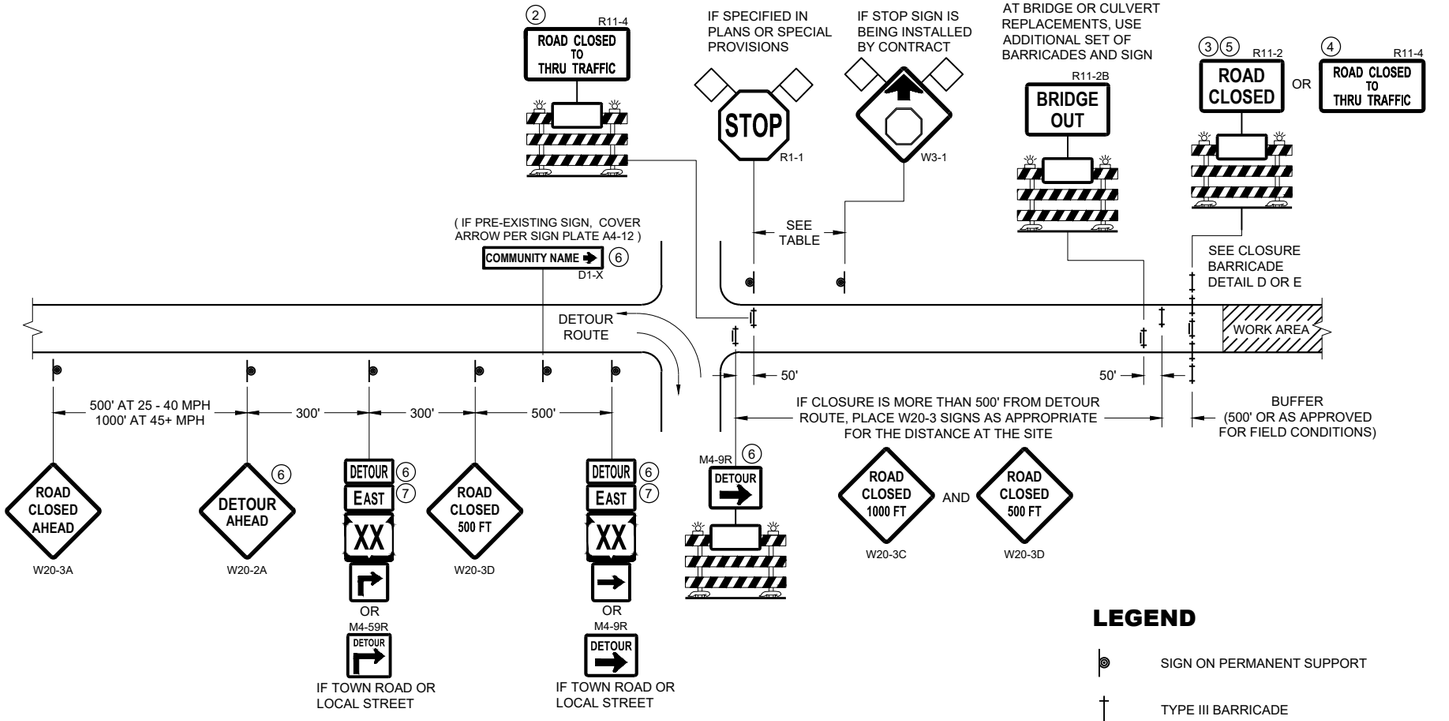
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S.D.D. 15 A 3-2b




## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )



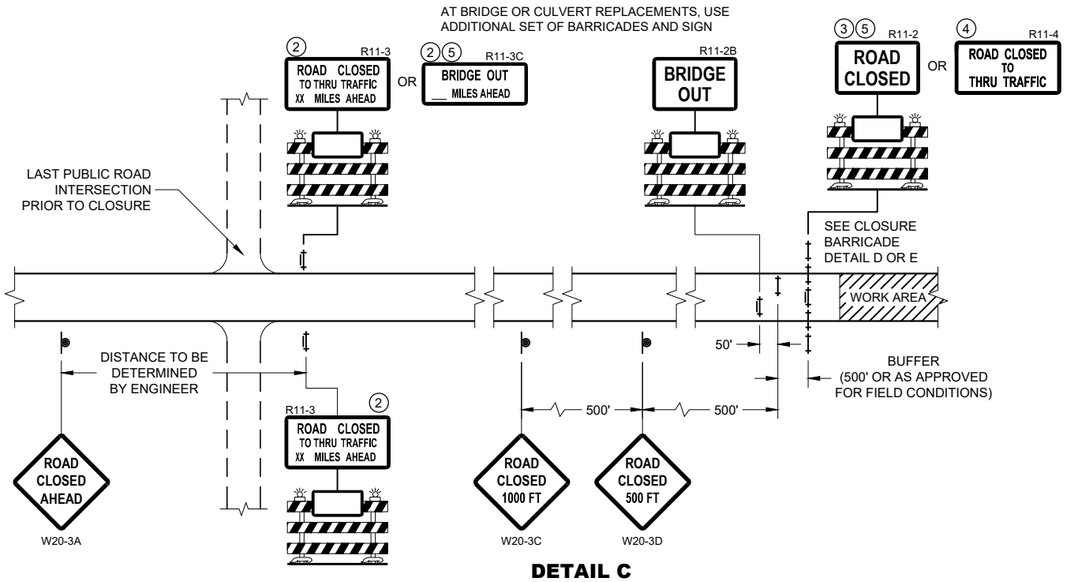

## DETAIL B
## MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1




## DETAIL C
## MAINLINE CLOSURE, NO POSTED DETOUR

| SPEED LIMIT (MPH) | "STOP AHEAD" ADVANCE WARNING DISTANCE (FT) |
|---|---|
| 25 | 200 |
| 30 | 200 |
| 35 | 350 |
| 40 | 350 |
| 45 | 500 |
| 50 | 550 |
| 55 | 750 |

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

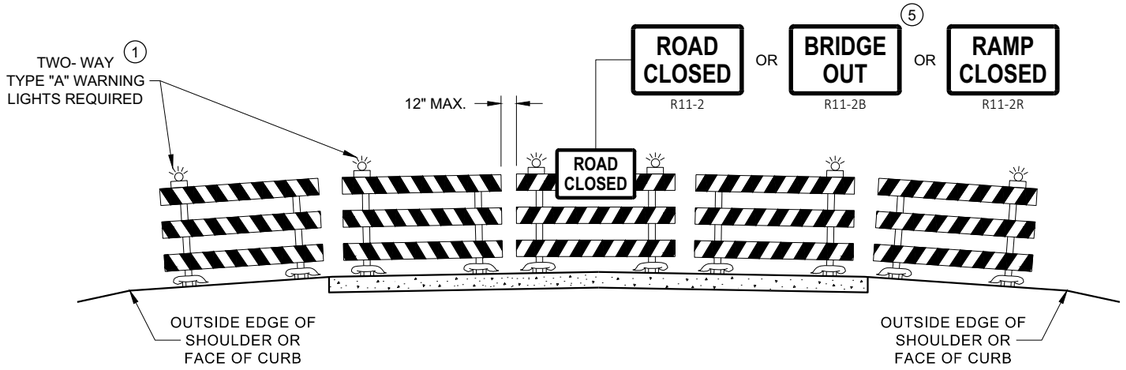
FHWA



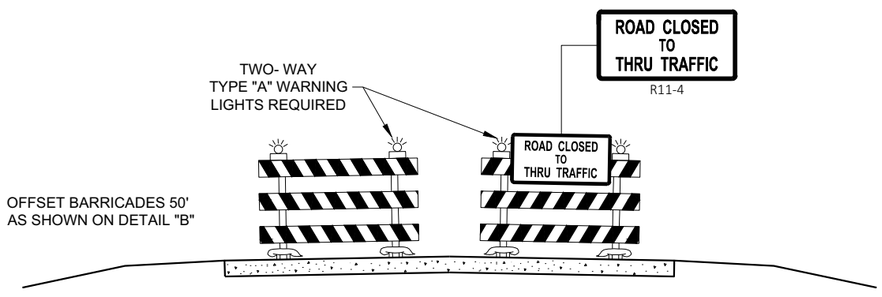
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SDD 15C02 - 08a

SDD 15C02 - 08a




**DETAIL D**
**ROAD CLOSURE BARRICADE DETAIL**
**APPROACH VIEW**




**DETAIL E**
**LANE CLOSURE BARRICADE DETAIL**
**APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS FOR VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA




6


SDD 15C02 - 08b

**THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.**

## LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR / EAST — M4 - 8, M3 - X
- XX — M1 - 4
- XX — M1 - 6
- COUNTY X — M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

## GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

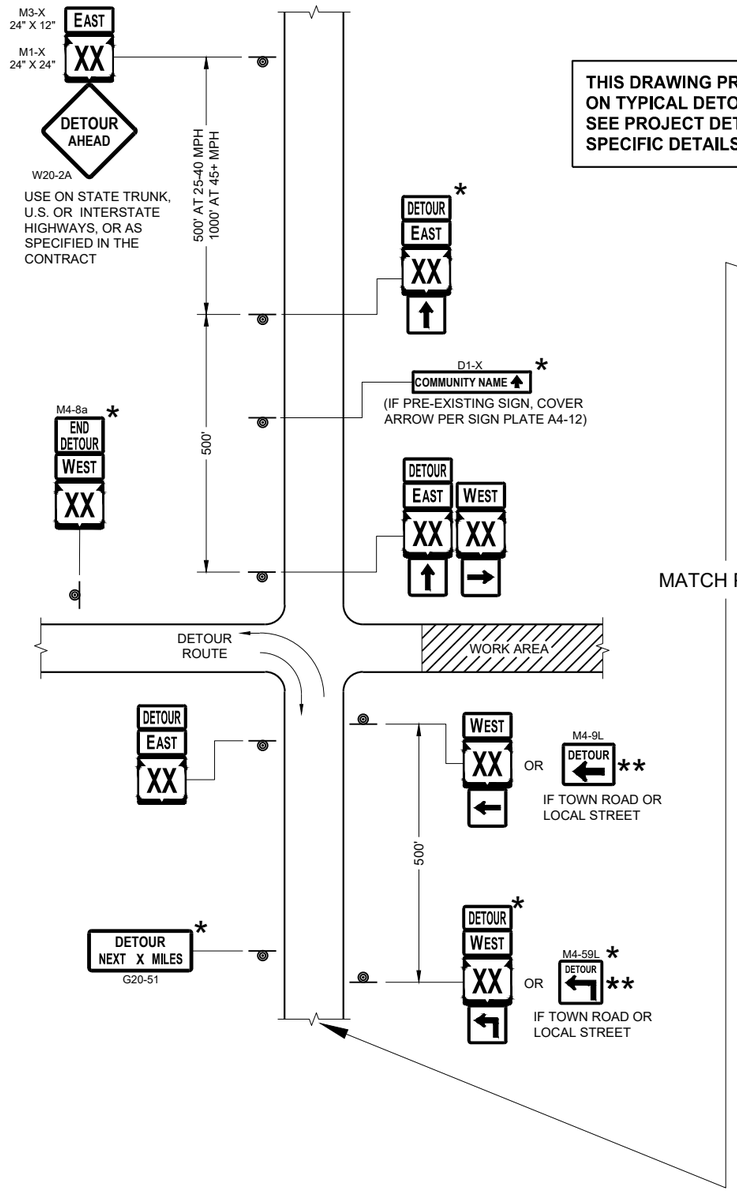
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

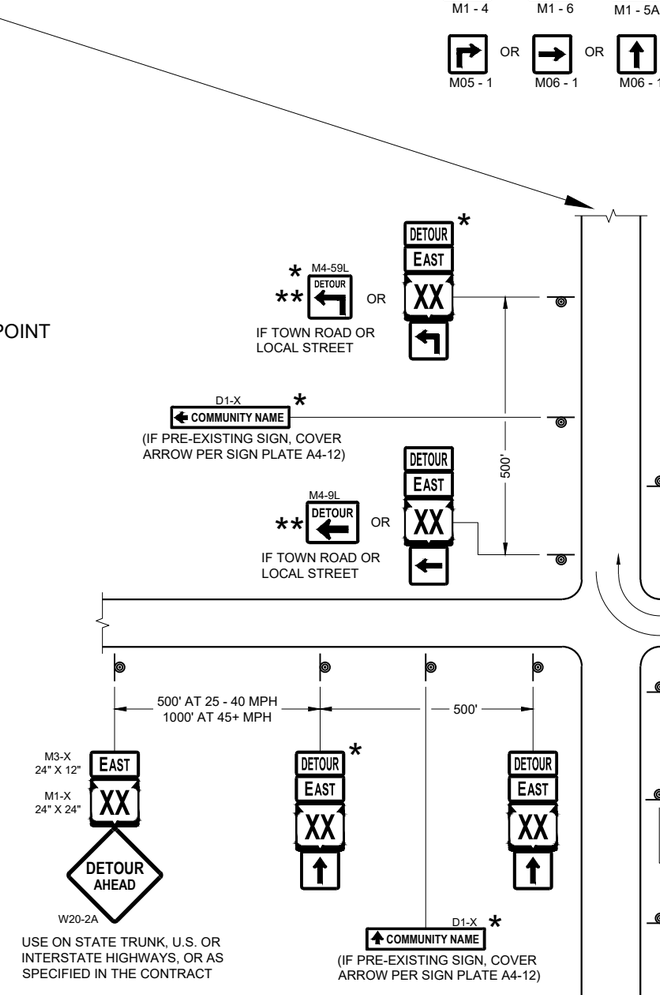
SIGN SIZES SHALL BE AS FOLLOWS:

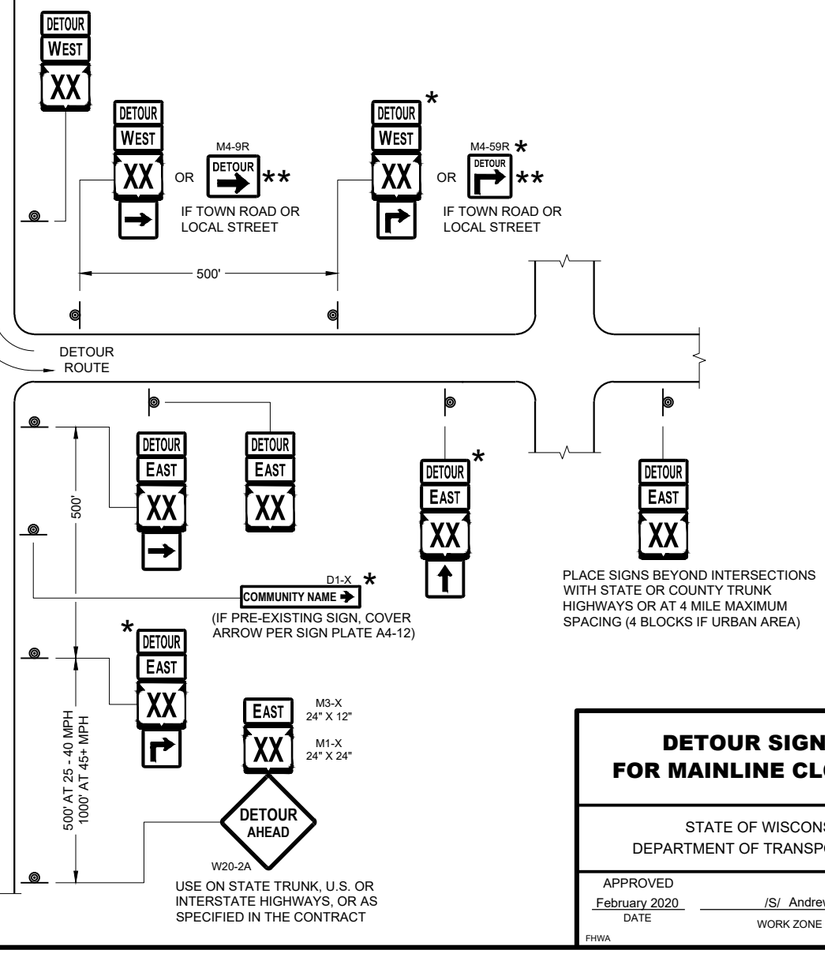
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.




SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

**DETAIL F**
**DETOUR SIGNING**

## DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

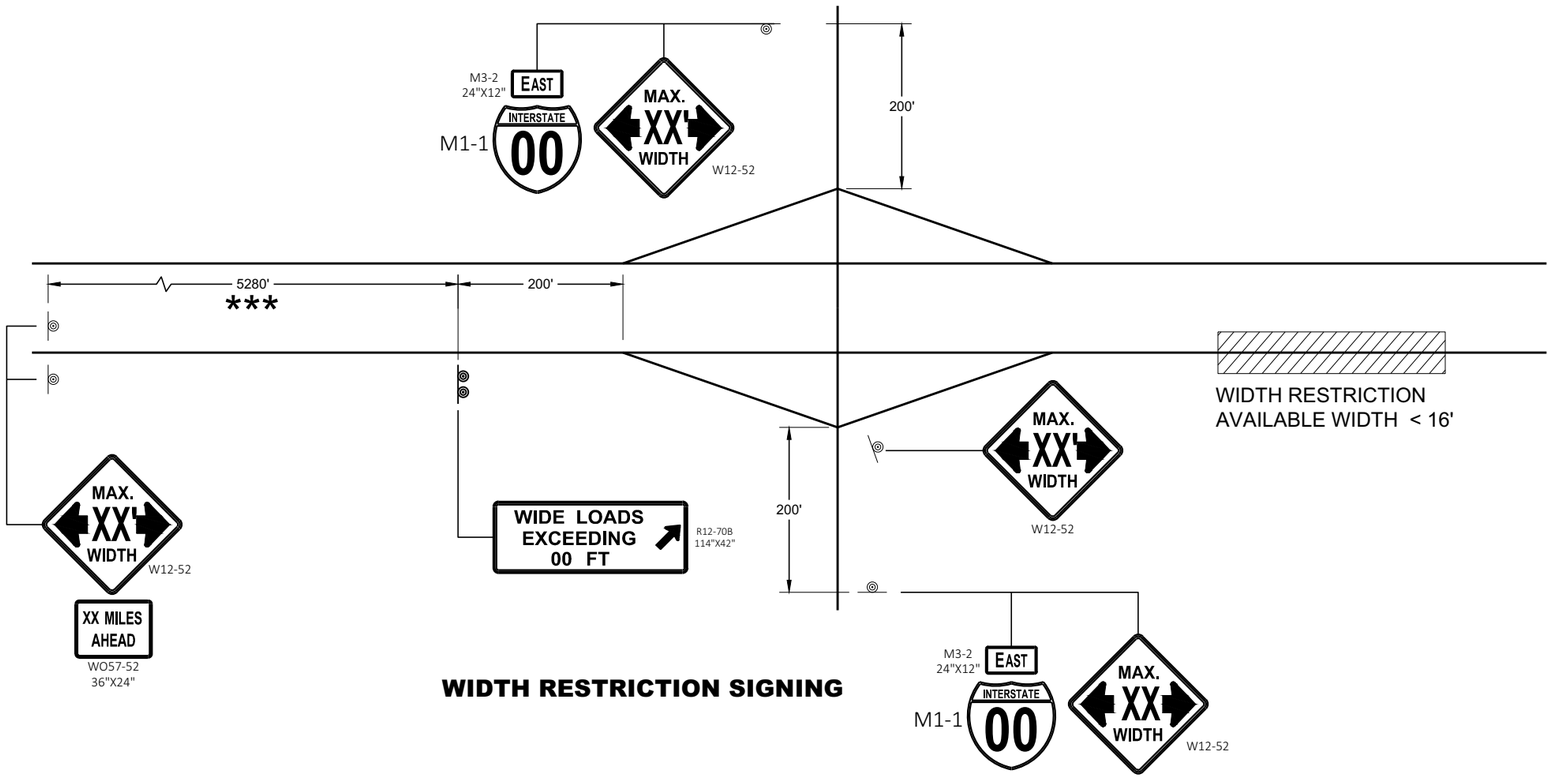
FHWA



SDD 15C02 - 08c

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SDD 15C02 - 08c




**WIDTH RESTRICTION SIGNING**

## LEGEND

◎ SIGN ON PERMANENT SUPPORT

## GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL " IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

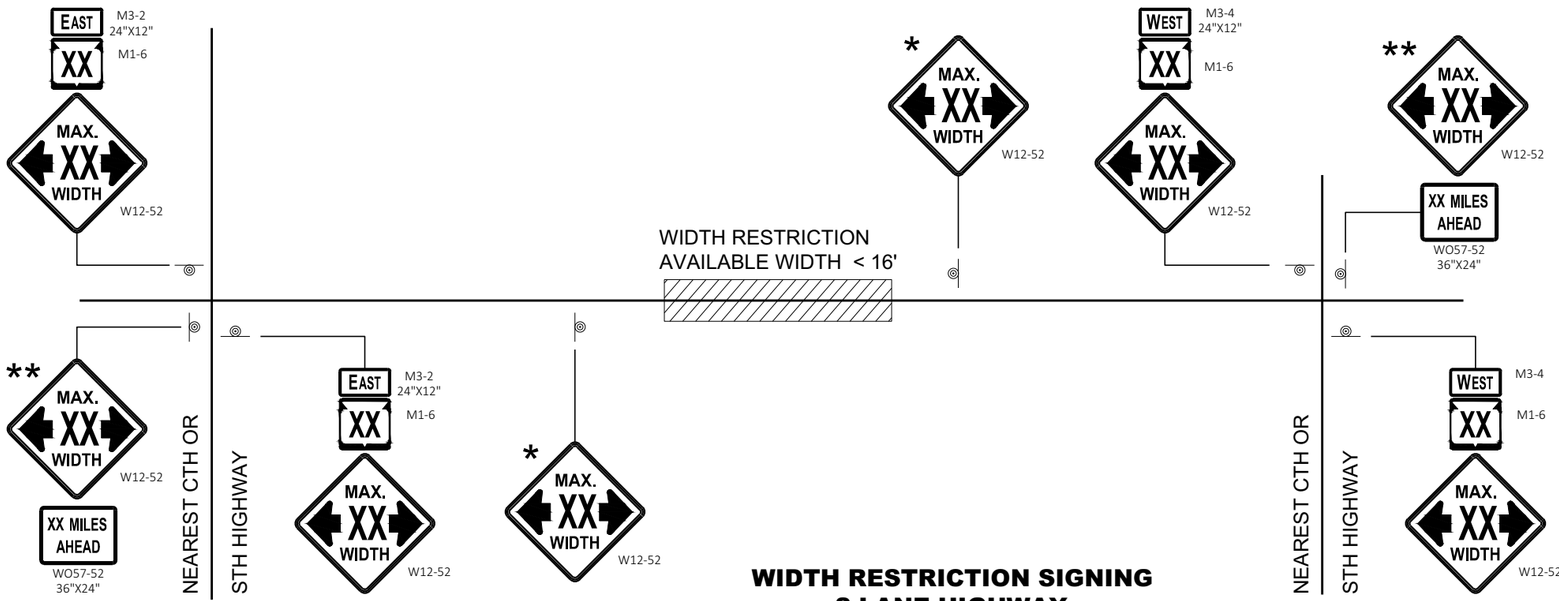
* PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.




WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH




**WIDTH RESTRICTION SIGNING**
**2 LANE HIGHWAY**

**ADVANCED WIDTH RESTRICTION SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

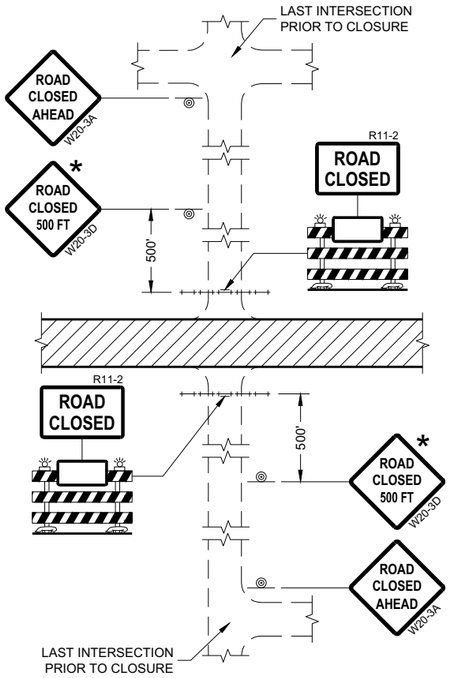
FHWA



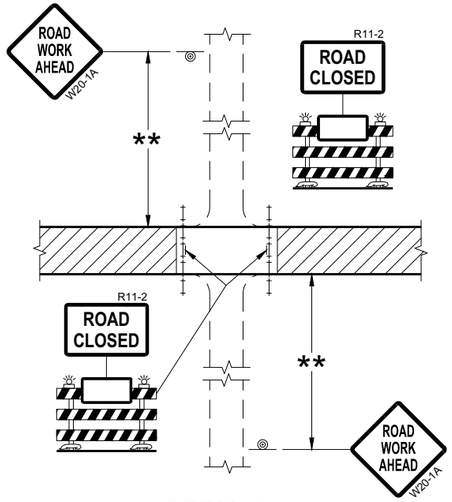


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SDD 15C02 - 08f




**DETAIL 1**
(NO ACCESS TO PROJECT)




**DETAIL 2**
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

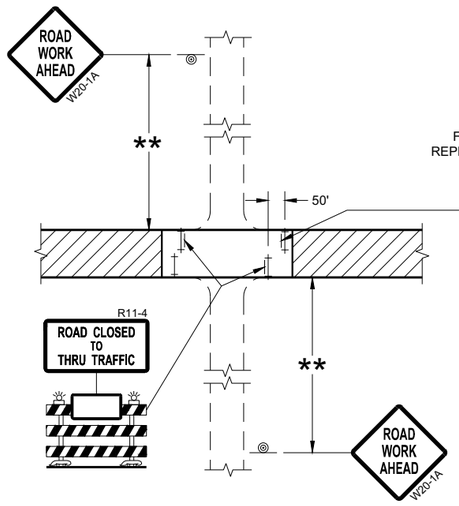
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

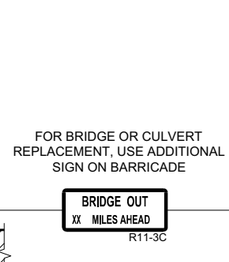
THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

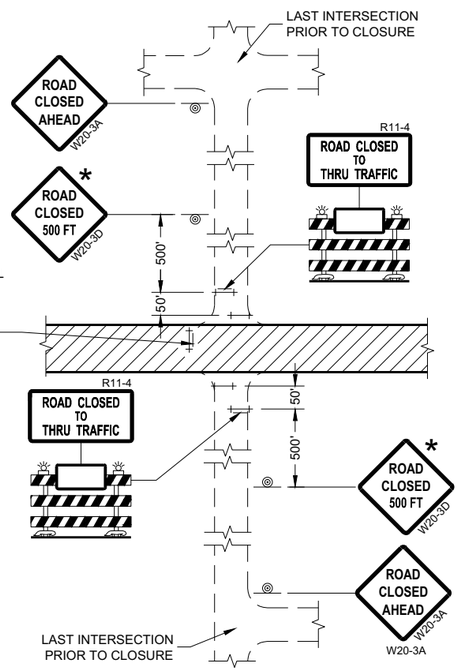
* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.




**DETAIL 3**
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)




**DETAIL 4**
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

**BARRICADES AND SIGNS FOR SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



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SDD 15C03 - 05

SDD 15C03 - 05

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

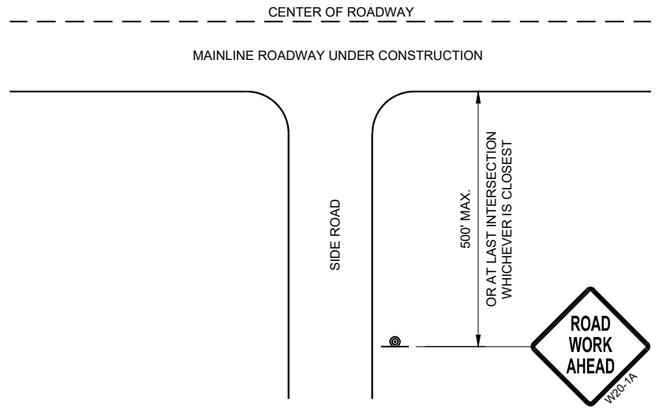
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS

** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



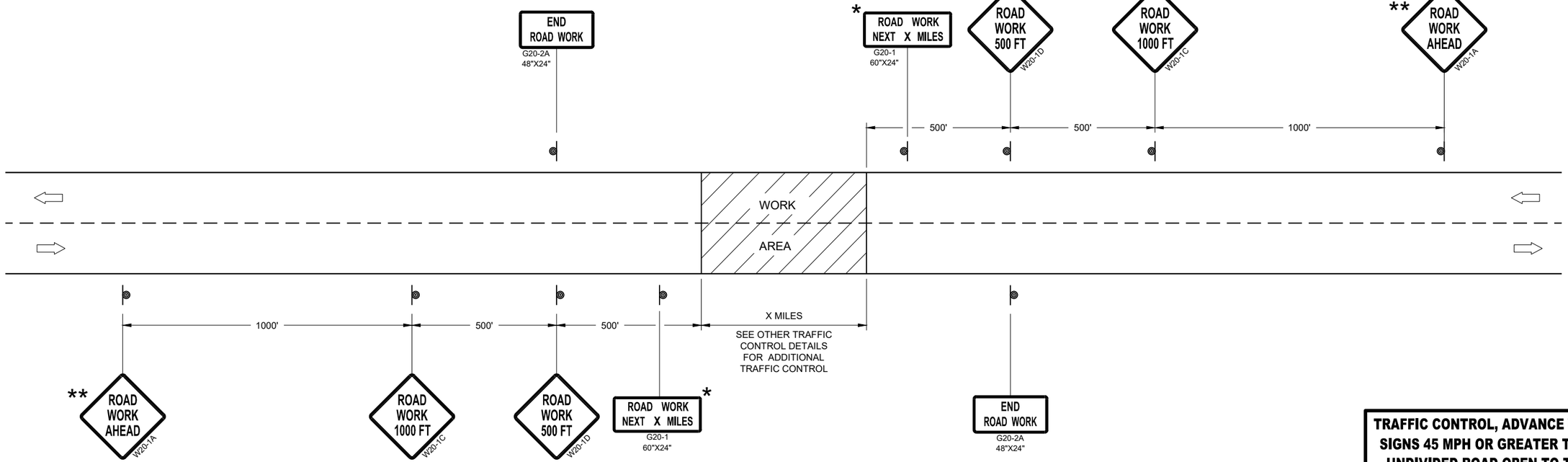

**TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL**

## LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA




**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER**

**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

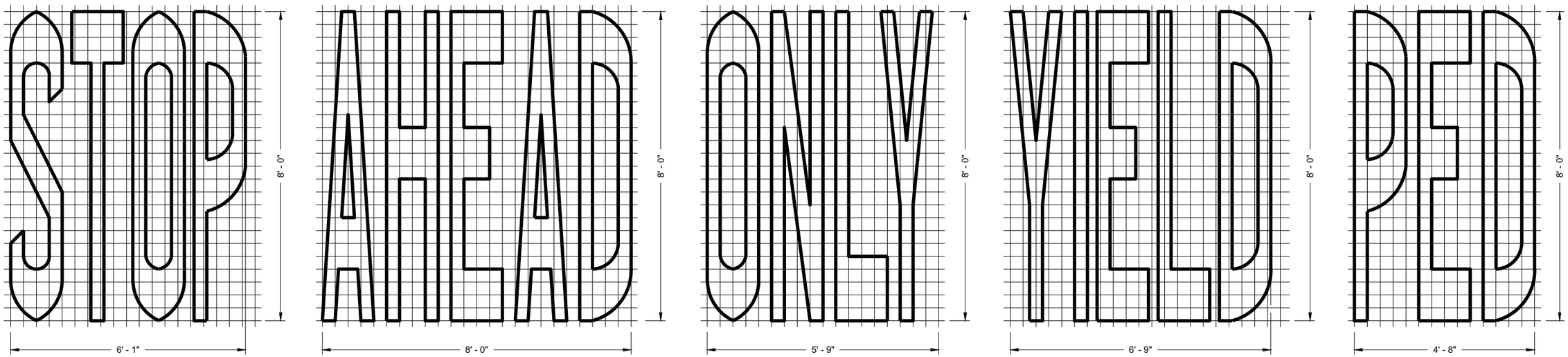
/S/ Andrew Heidtke
WORK ZONE ENGINEE

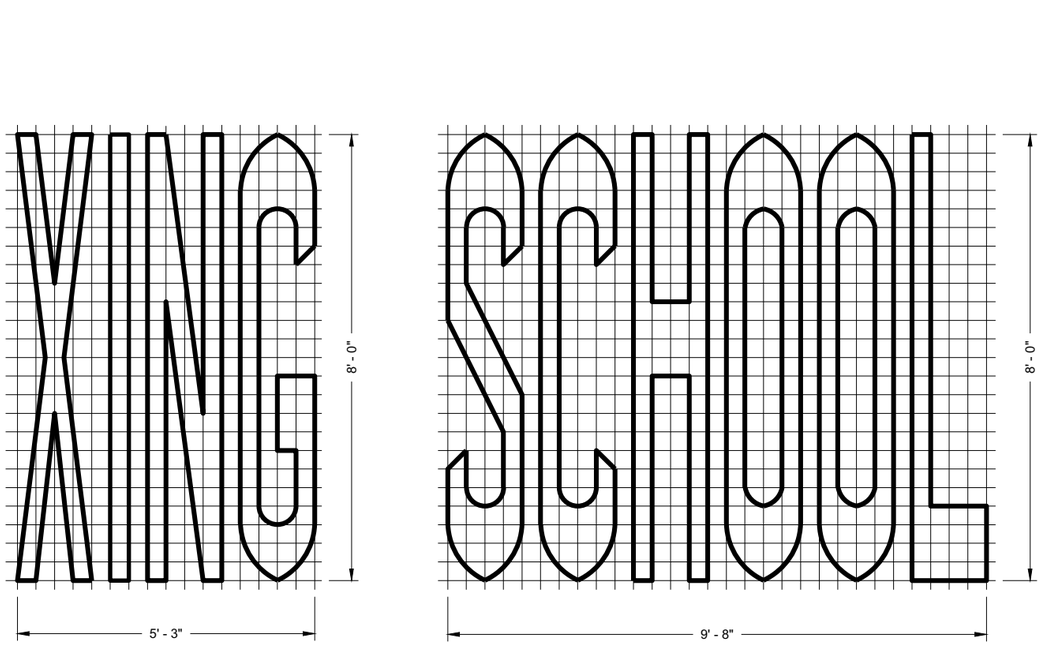
FHWA



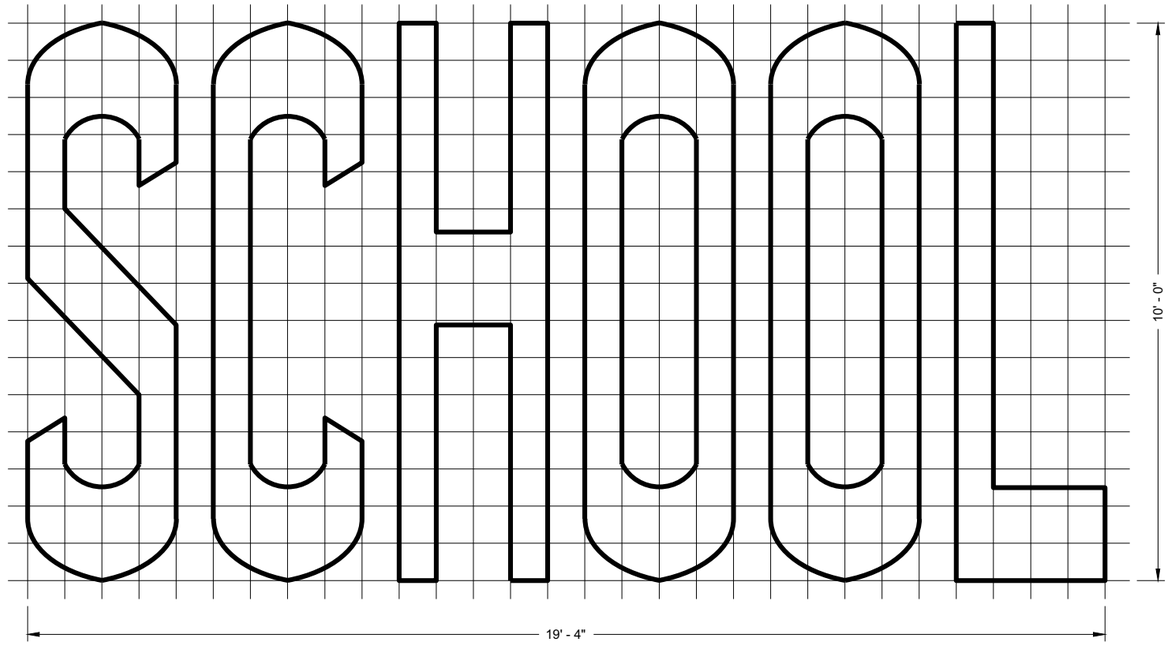

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SDD 15C04 - 05




SINGLE LANE




TWO - LANE

## GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

**PAVEMENT MARKING WORDS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA



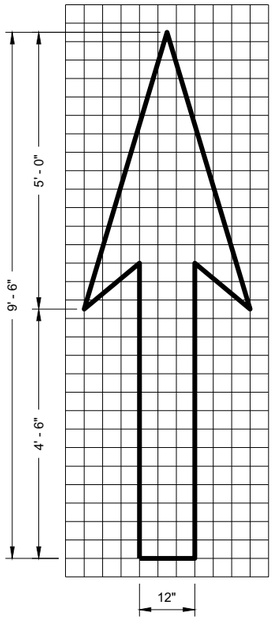
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SDD 15C07 - 15b

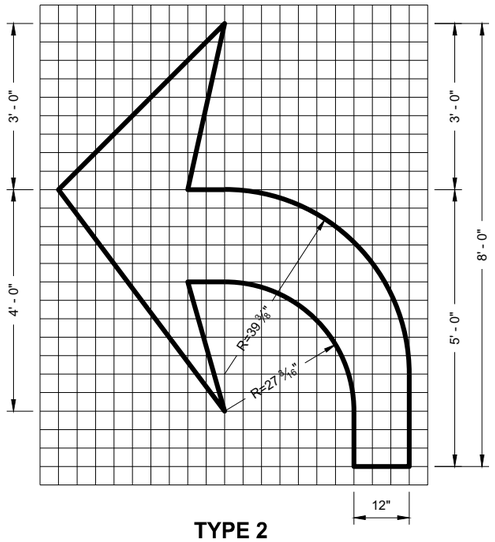
SDD 15C07 - 15b

## GENERAL NOTES

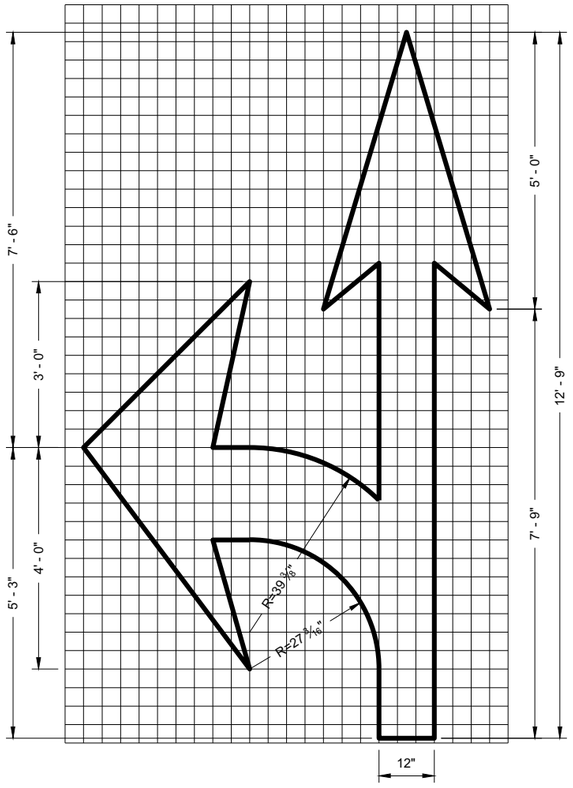
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



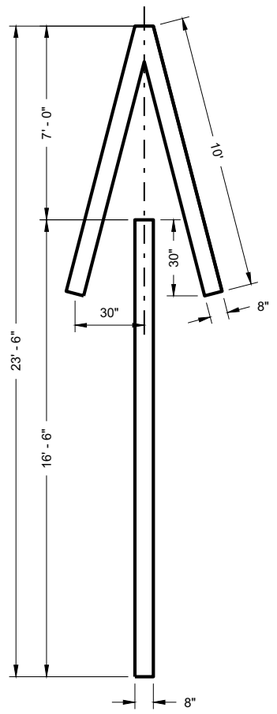

TYPE 1



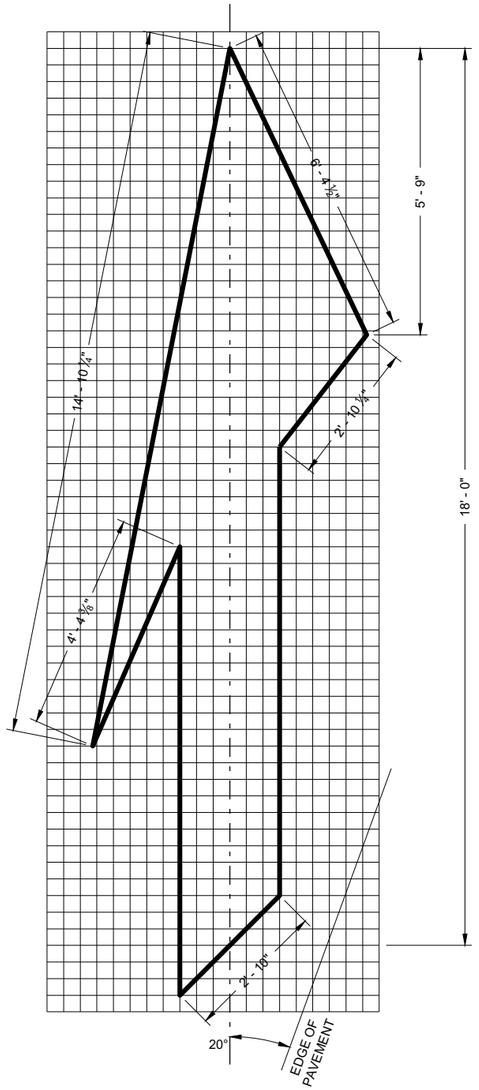

TYPE 2



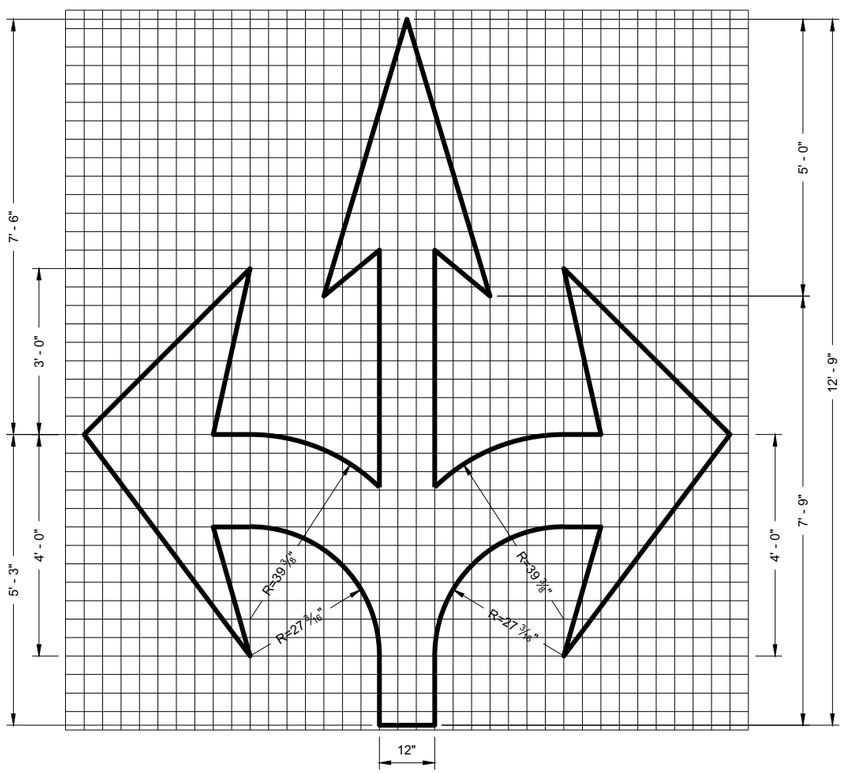

TYPE 3



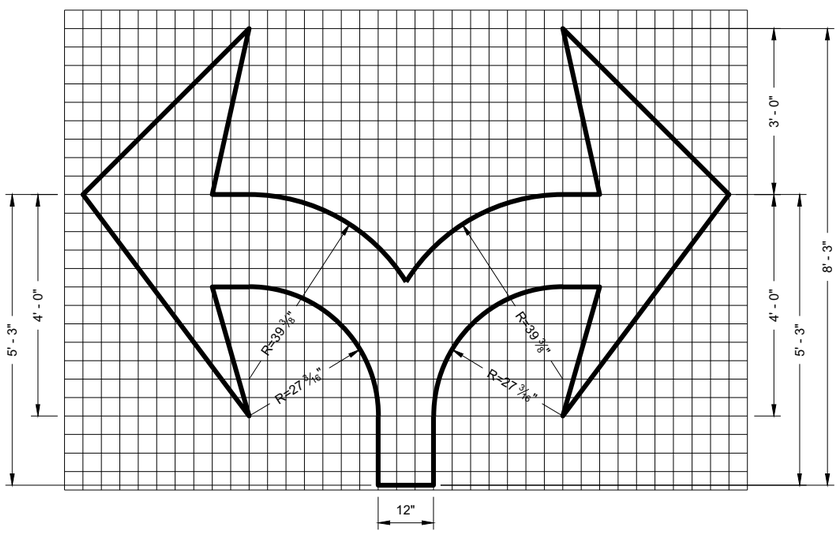

TYPE 4




TYPE 5 LANE DROP ARROW




TYPE 6




TYPE 7

**PAVEMENT MARKING ARROWS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA



SDD 15C07 - 15c

SDD 15C07 - 15c

## GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

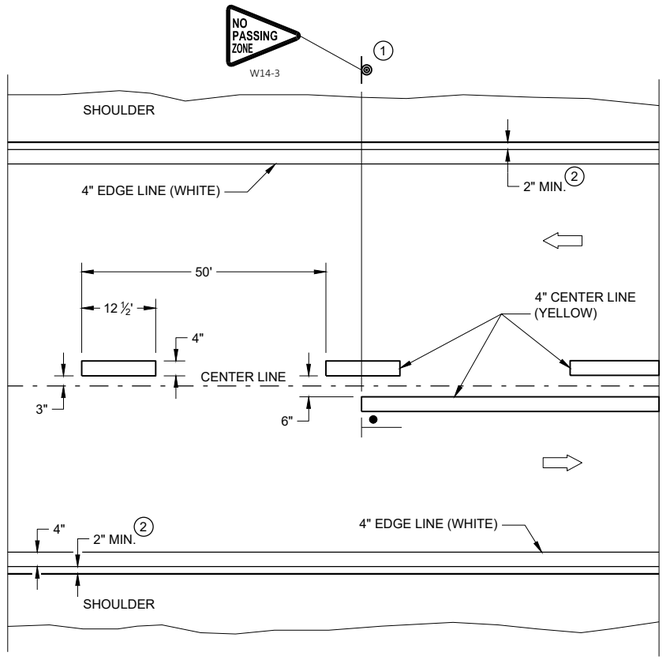
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

## LEGEND

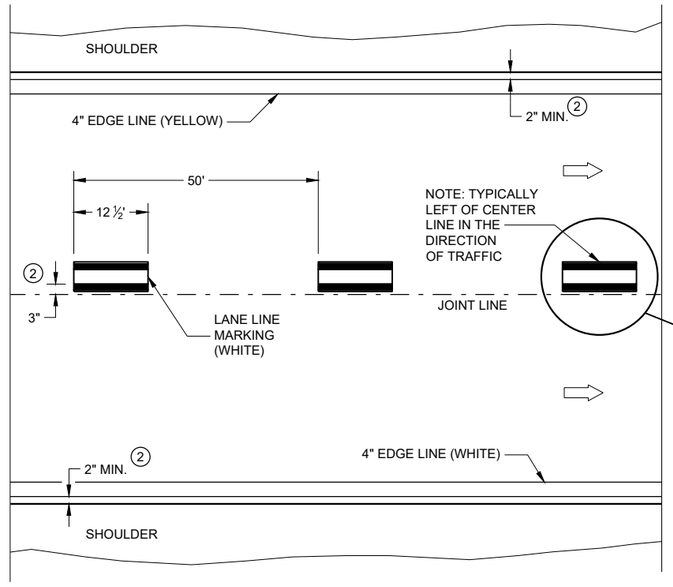
"T" MARKING

SIGN ON PERMANENT SUPPORT

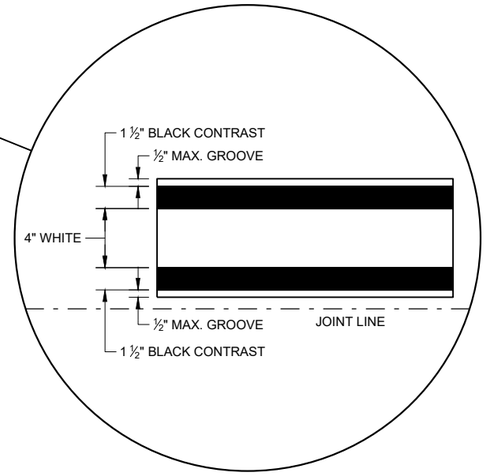
DIRECTION OF TRAFFIC




TWO WAY TRAFFIC




ONE WAY TRAFFIC




## PERMANENT PAVEMENT MARKING

**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

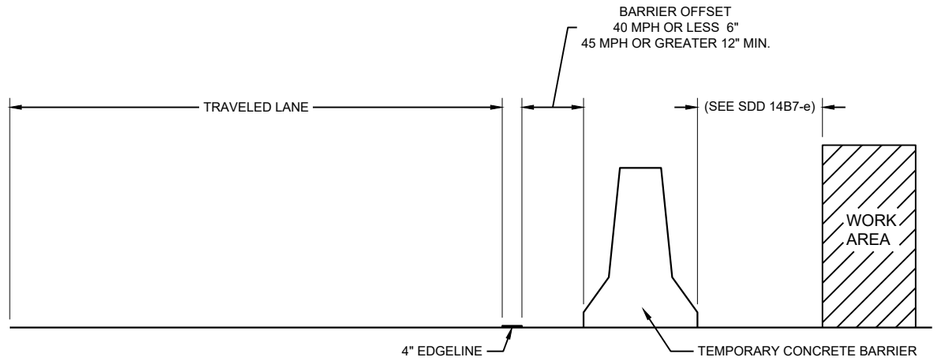


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SDD 15C08 - 22a

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SDD 15C08 - 22a



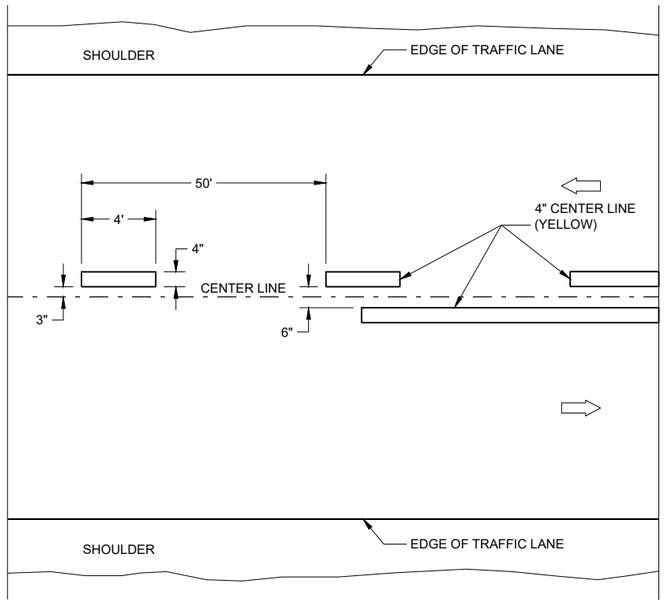

**TEMPORARY BARRIER OFFSET FROM EDGELINE**

## GENERAL NOTES

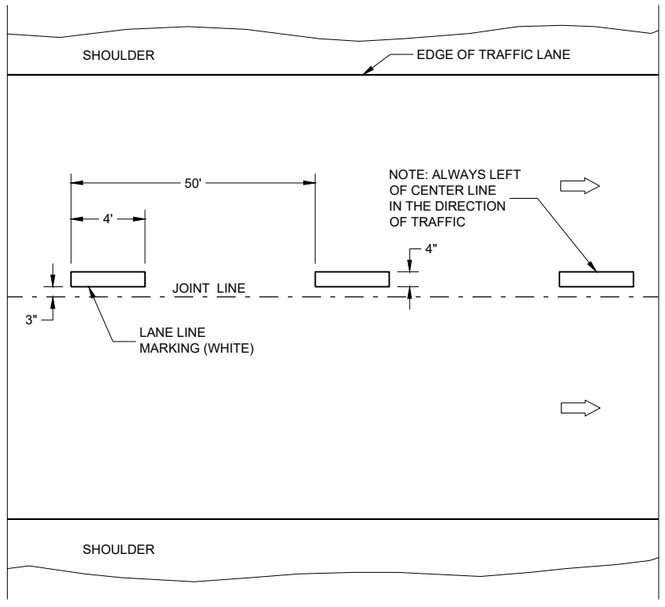
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

## LEGEND

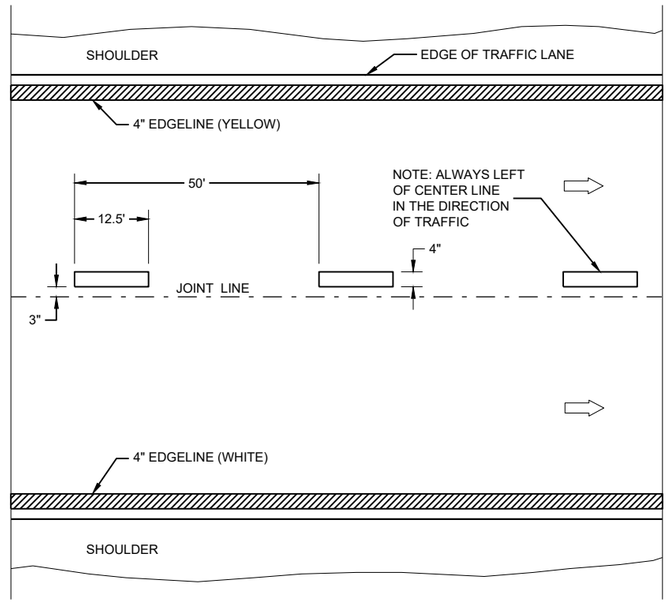
DIRECTION OF TRAFFIC




**TWO WAY TRAFFIC**




**ONE WAY TRAFFIC**




**FREEWAYS AND EXPRESSWAYS**

**TEMPORARY PAVEMENT MARKING**

**TEMPORARY LONGITUDINAL PAVEMENT MARKING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2022
DATE

/S/ Jeannie Silver
STATEWIDE SIGNING AND M
ENGINEER

FHWA



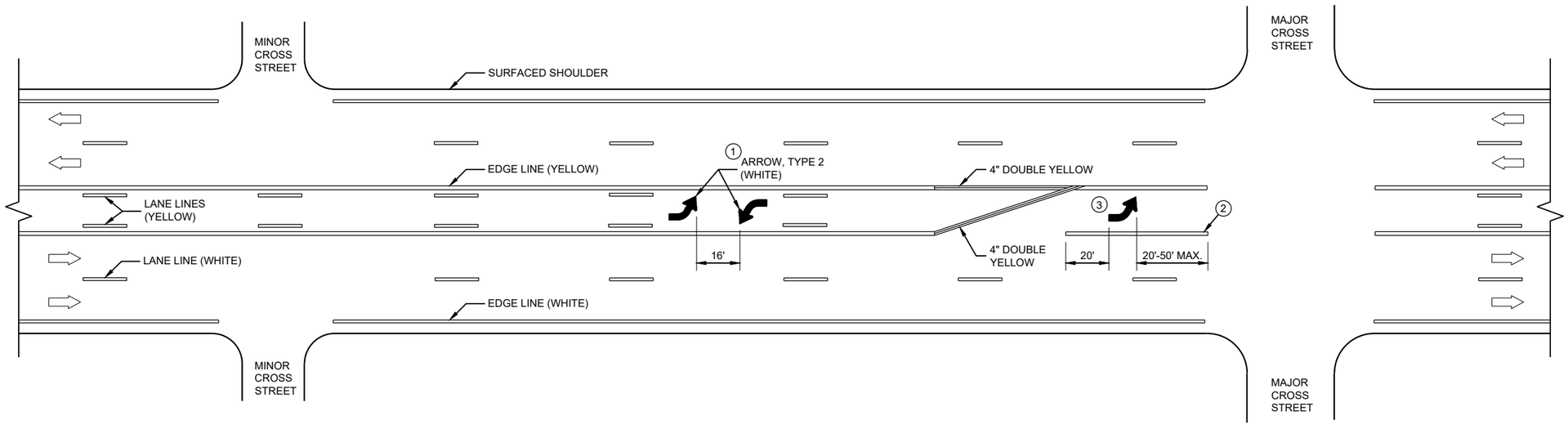

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SDD 15C08 - 22b

## GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 8" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

DIRECTION OF TRAFFIC




## TWO WAY LEFT TURN LANE

6

SDD 15C08 - 22c

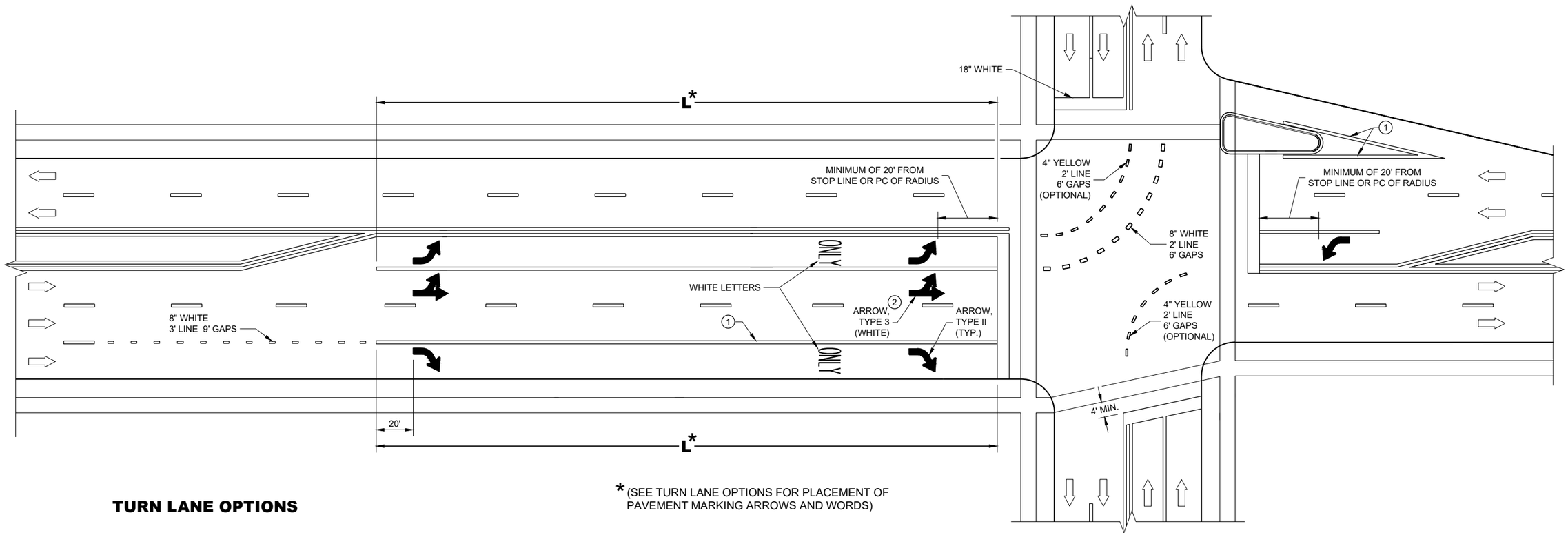
**PAVEMENT MARKING (TURN LANES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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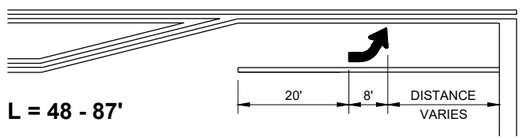
SDD 15C08 - 22c



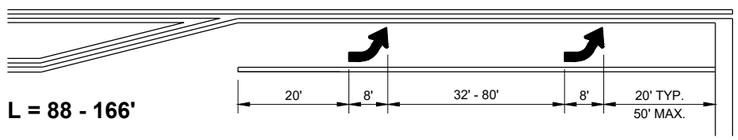

* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

## TURN LANE OPTIONS

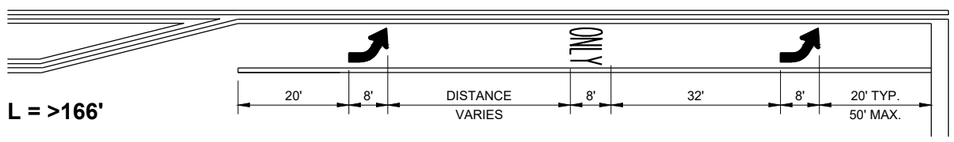
LENGTH OF TURN BAY ( **L** ) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS




**L = 48 - 87'**




**L = 88 - 166'**




**L = >166'**

## GENERAL NOTES

1. 8" WHITE
2. QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

DIRECTION OF TRAFFIC

**L** = LENGTH OF TURN BAY

**PAVEMENT MARKING (TURN LANES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



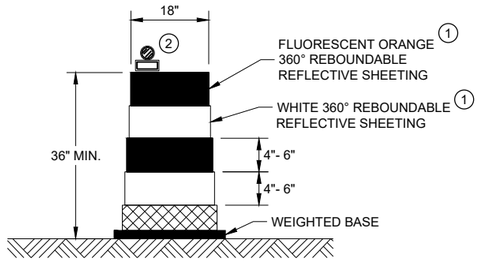


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SDD 15C08 - 22d

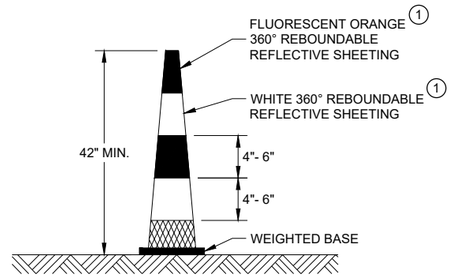
## GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.




### DRUM

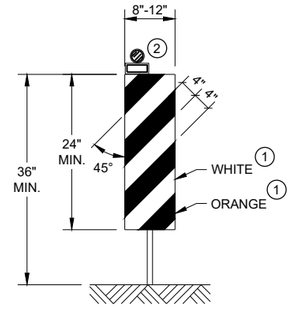
BALLAST WIDTHS
RANGE FROM 24"-36"




### 42" CONE

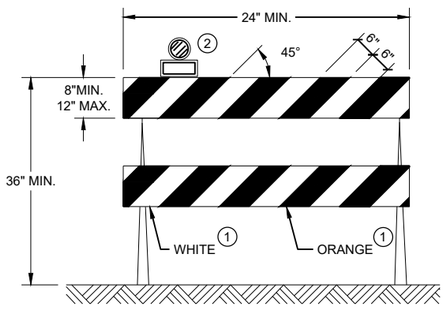
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



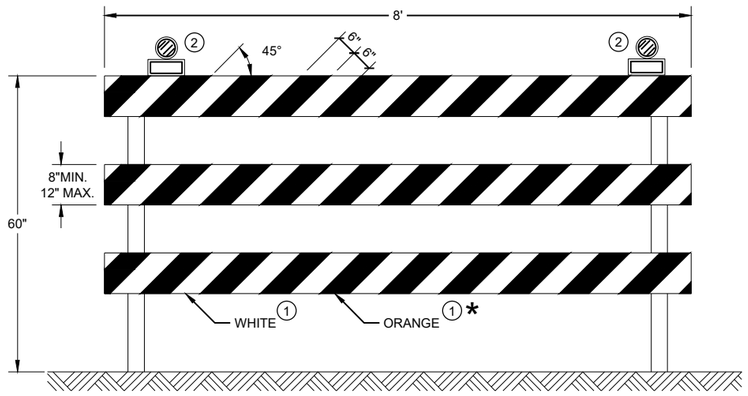

### VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.




### TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.




### TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

## CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



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SDD 15C11 - 10b

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SDD 15C11 - 10b

## LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

## GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

## FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

## TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

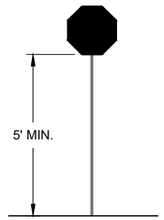
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.




**STOP/SLOW PADDLE ON SUPPORT STAFF**

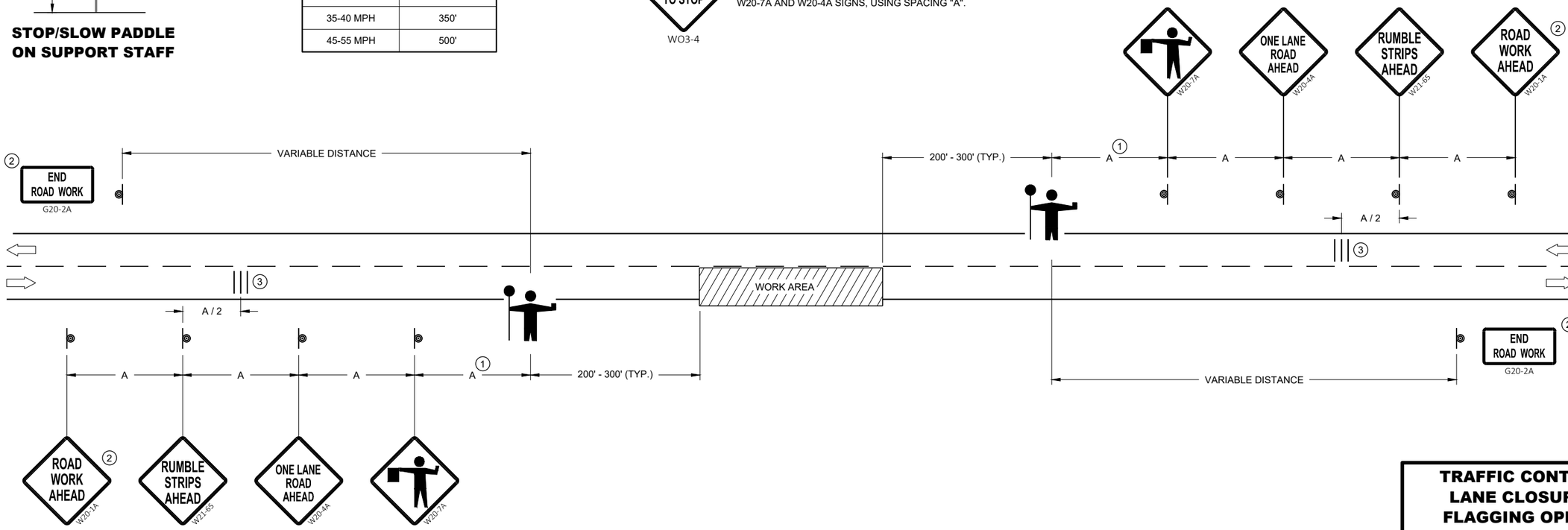
## SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

| SPEED LIMIT | SPACING "A" |
|---|---|
| 25-30 MPH | 200' |
| 35-40 MPH | 350' |
| 45-55 MPH | 500' |




WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".




**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



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SDD 15C12 - 09a

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## GENERAL NOTES

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL CONE 42-INCH

TRAFFIC CONTROL DRUM

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

AFAD — AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

## GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

## FLAGGING

IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

(1) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(2) IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.

## TEMPORARY PORTABLE RUMBLE STRIPS

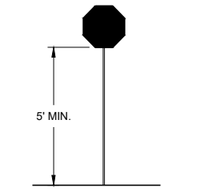
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

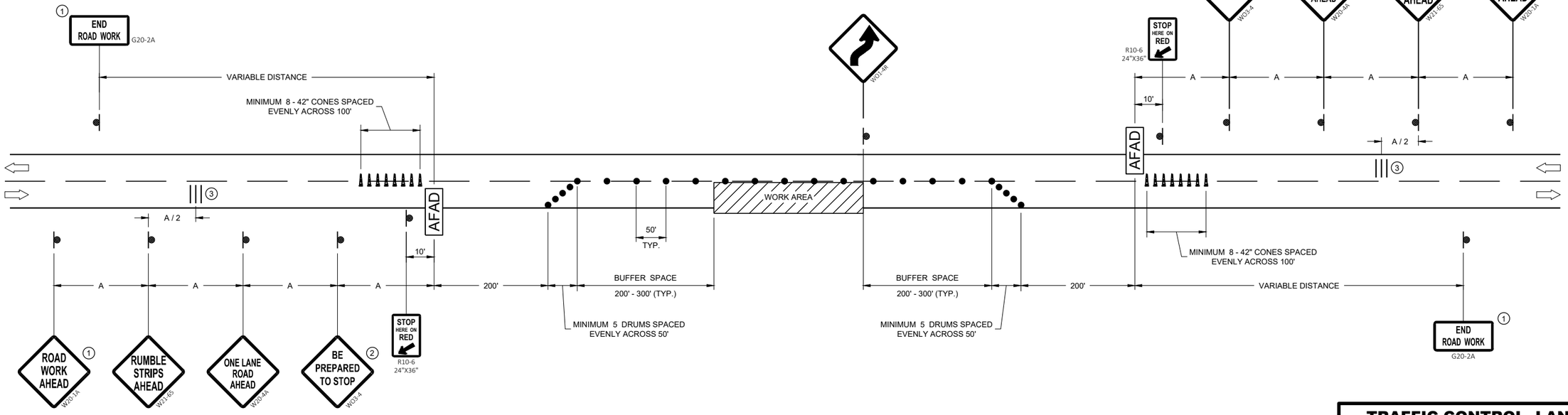
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.




**STOP/SLOW PADDLE ON SUPPORT STAFF**

**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

| SPEED LIMIT | SPACING "A" |
|---|---|
| 25-30 MPH | 200' |
| 35-40 MPH | 350' |
| 45-55 MPH | 500' |




# TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

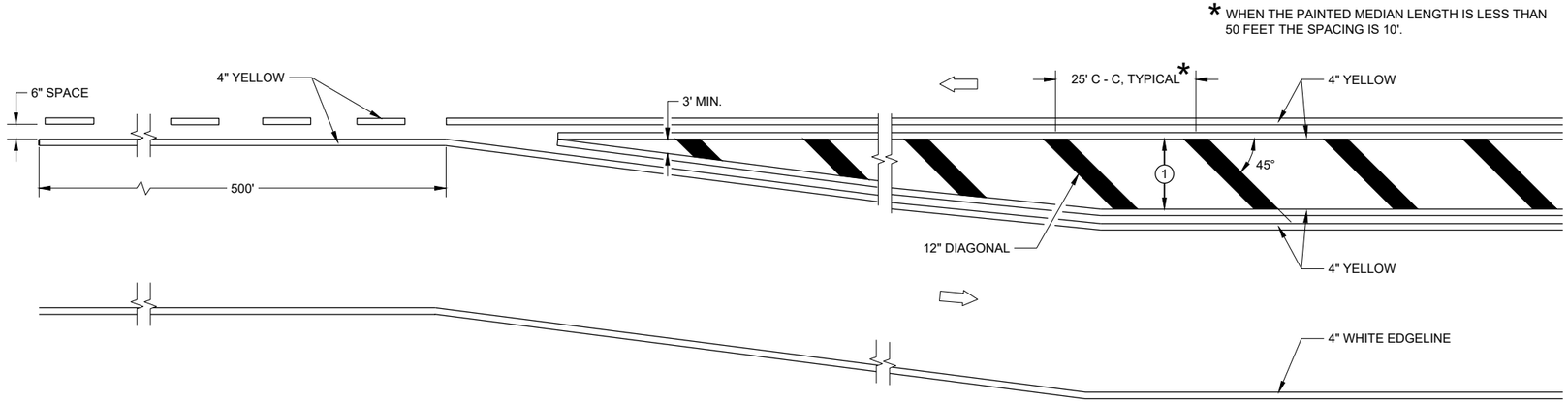


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SDD 15C12 - 09b

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SDD 15C12 - 09b

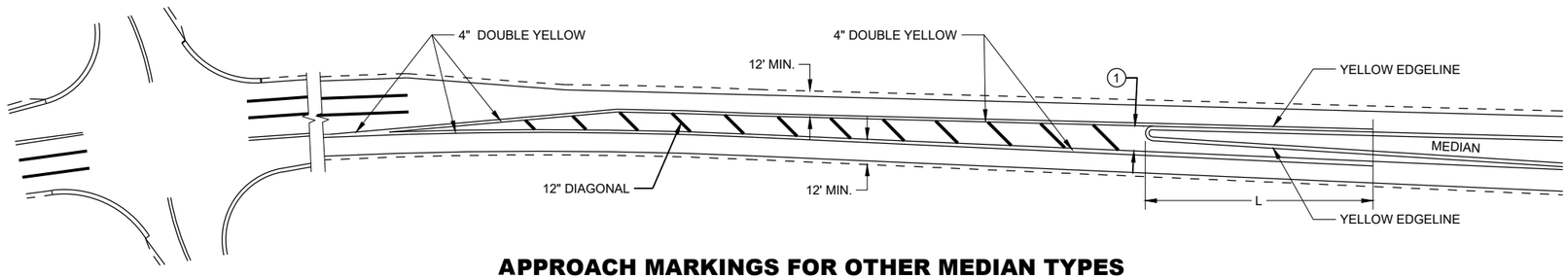



**MEDIAN ISLAND DETAIL**

## GENERAL NOTES

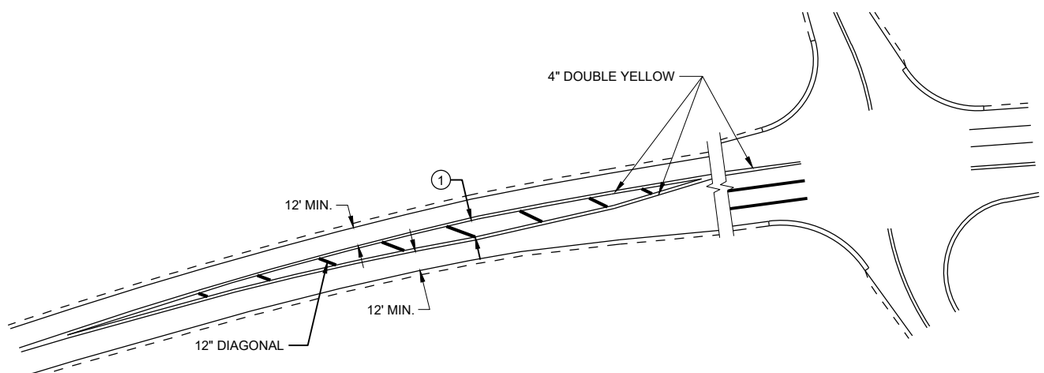
1. DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

DIRECTION OF TRAVEL




**APPROACH MARKINGS FOR OTHER MEDIAN TYPES**

| SPEED LIMIT | L |
|---|---|
| <35 MPH | 5' |
| 35> MPH | 50' |




**NON-APPROACH MARKINGS**

6

SDD 15C18 - 07a

**MEDIAN ISLAND PAVEMENT MARKINGS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

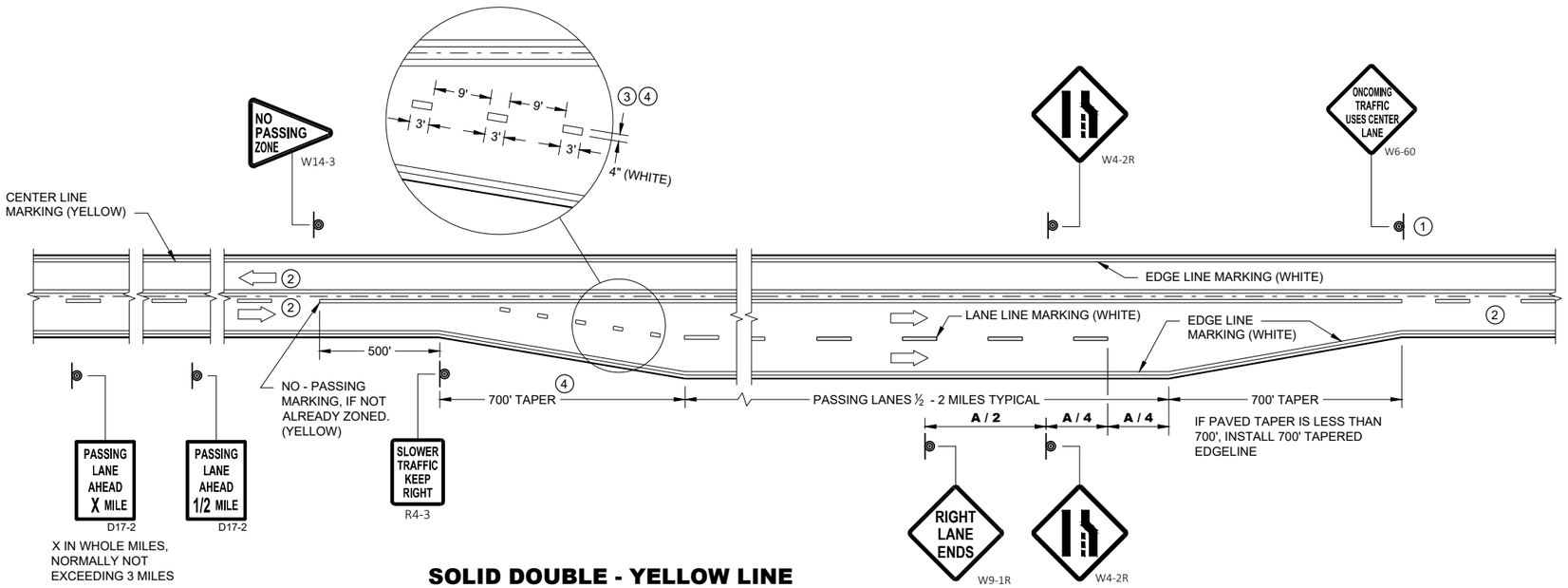
/S/ Jeannie Silver
STATE SIGNING AND MAF ENGINEER

FHWA

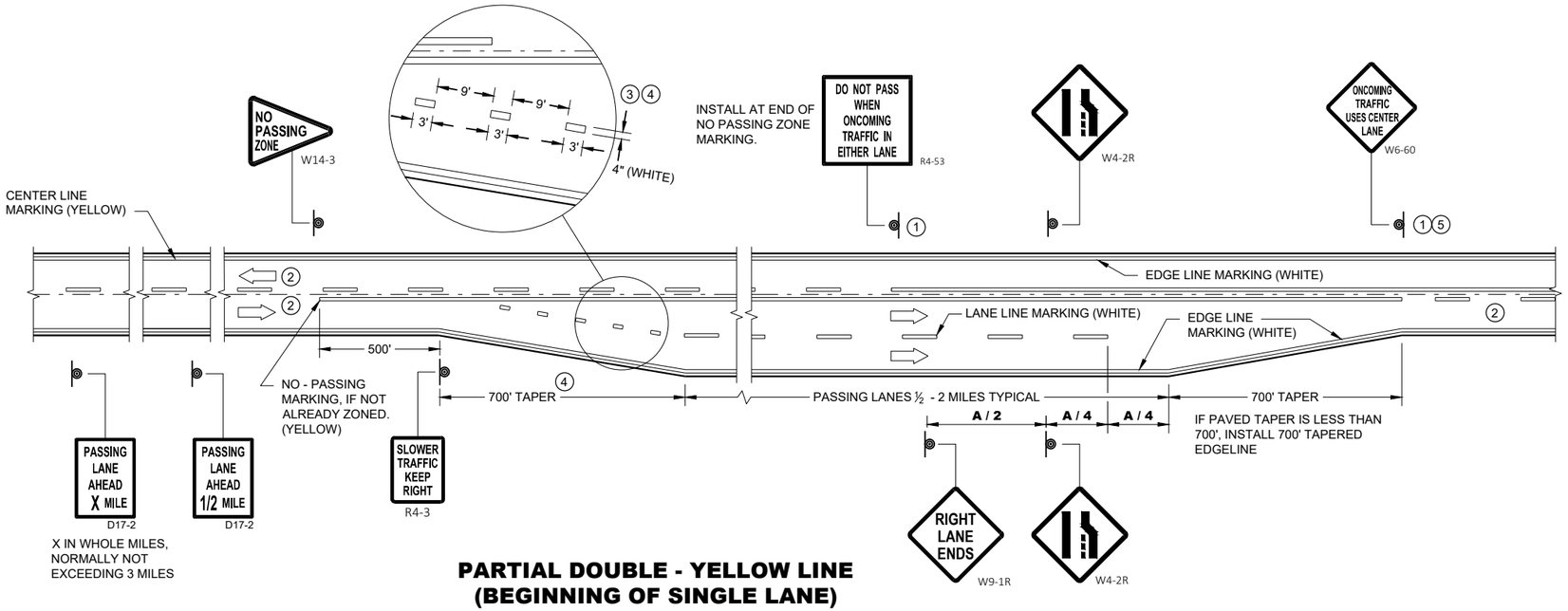


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SDD 15C18 - 07a




**SOLID DOUBLE - YELLOW LINE**
**(THROUGHOUT ENTIRE PASSING / CLIMBING LANE)**




**PARTIAL DOUBLE - YELLOW LINE**
**(BEGINNING OF SINGLE LANE)**

## GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
5. REPEAT EVERY 1 MILE UP UNTIL R4-53.

ARROW SYMBOL ( ⇨ ) SHOWS DIRECTION OF TRAVEL

**DISTANCE TABLE**

| POSTED OR 85th PERCENTILE SPEED | DISTANCE "A" |
|---|---|
| 45 | 775 |
| 50 | 885 |
| 55 | 990 |

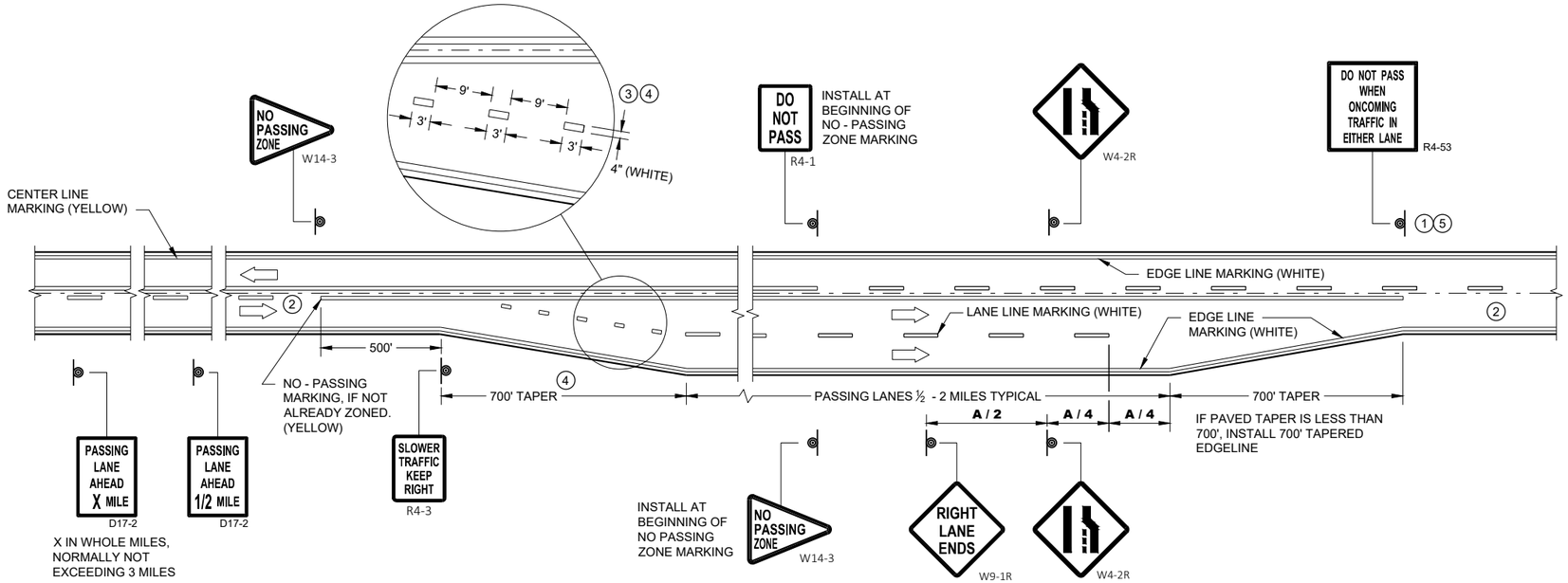
**PAVEMENT MARKING & SIGNING (CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

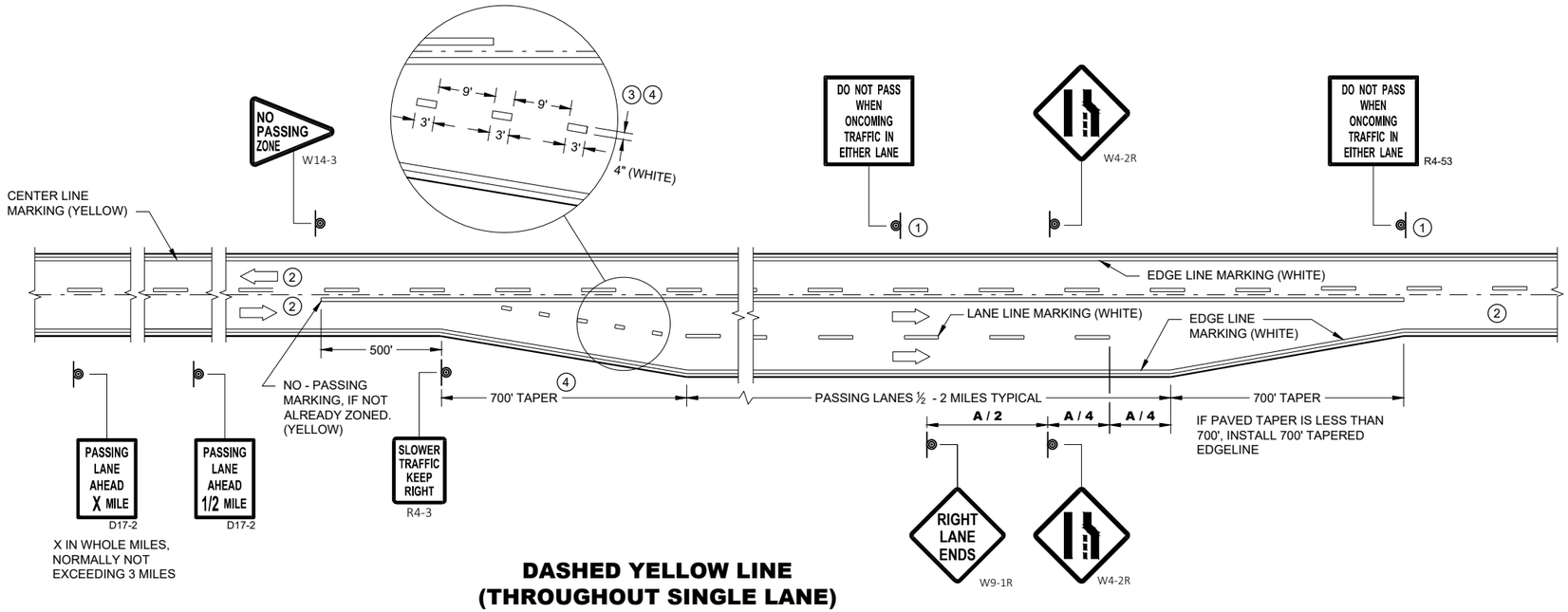


SDD 15C35 - 05b

SDD 15C35 - 05b




**SOLID DOUBLE - YELLOW LINE (END OF SINGLE LANE)**




**DASHED YELLOW LINE (THROUGHOUT SINGLE LANE)**

## GENERAL NOTES

1. SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
2. THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
3. THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
4. WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
5. REPEAT EVERY ONE MILE UP UNTIL NO PASSING ZONE.

ARROW SYMBOL ( ⇨ ) SHOWS DIRECTION OF TRAVEL

**DISTANCE TABLE**

| POSTED OR 85th PERCENTILE SPEED | DISTANCE "A" |
|---|---|
| 45 | 775 |
| 50 | 885 |
| 55 | 990 |

**PAVEMNET MARKING & SIGNING (CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MARKING ENGINEER
FHWA



SDD 15C35 - 05c

SDD 15C35 - 05c

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

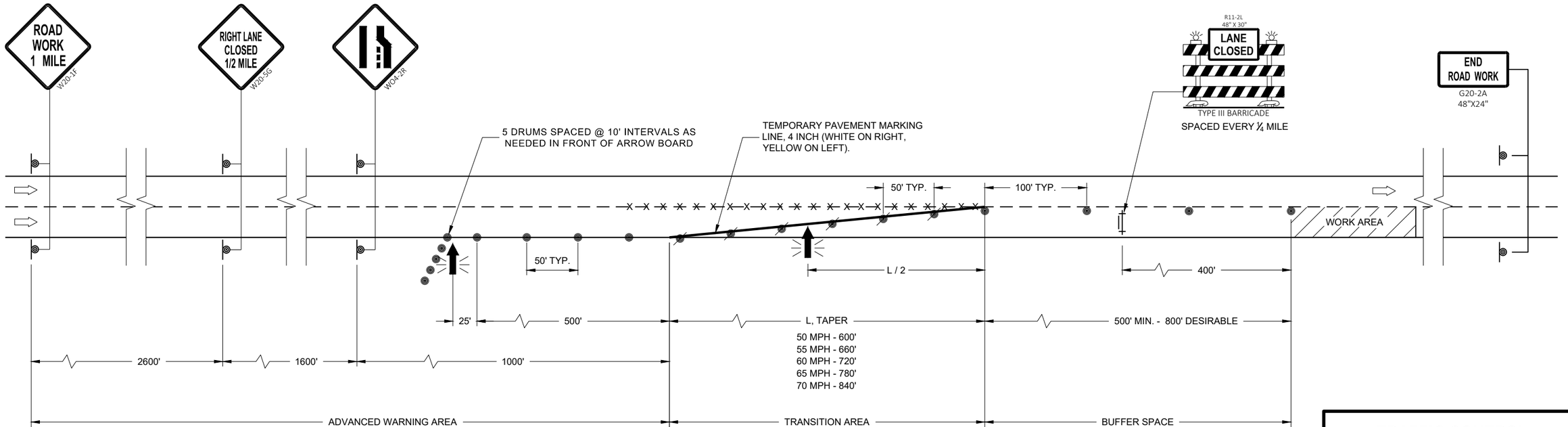
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD




# TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



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SDD 15D12 - 10a

6

SDD 15D12 - 10a

## GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

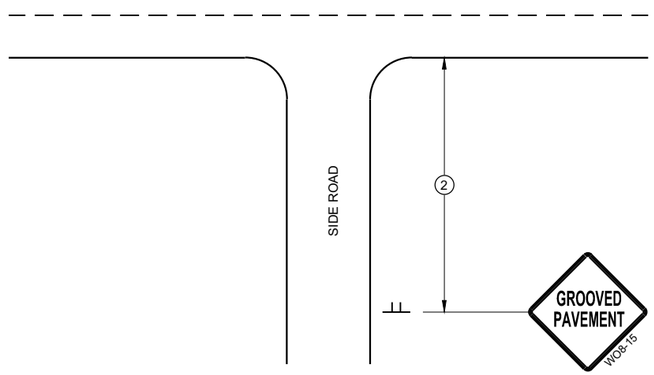
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

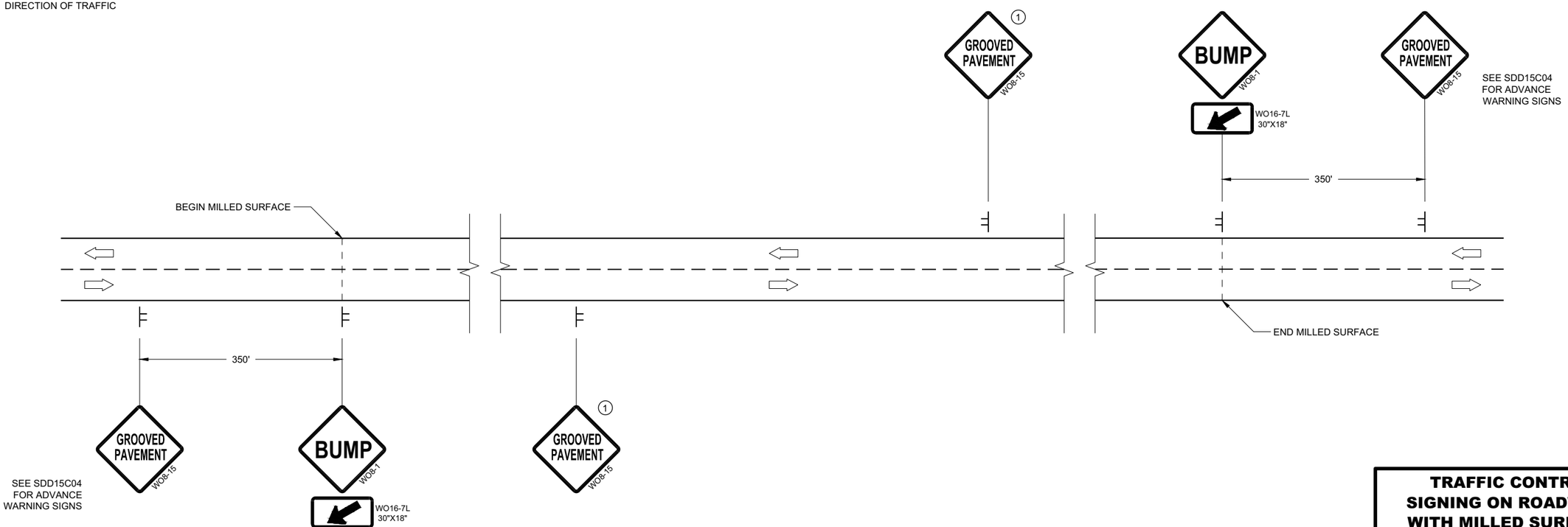
## LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC




**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**




**DETAIL FOR SIGNING ON MILLED SURFACES**

**TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA





6
SDD 15D44 - 02

## LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- DELINEATOR, FLEXIBLE TUBULAR MARKER
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- CONSTRUCTION TRAFFIC
- WORK AREA
- CC — CRASH CUSHION TEMPORARY
- EXISTING CONCRETE BARRIER TEMPORARY PRECAST

## GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

WORK ZONE INGRESS/EGRESS LOCATIONS SHALL BE APPROVED BY THE ENGINEER. LOCATIONS FOR WORK ZONE ACCESS TO/FROM THE FREEWAY SHALL NOT BE USED FOR INGRESS AND EGRESS AT THE SAME TIME.

THIS ACCESS DETAIL IS TYPICAL FOR LEFT LANE ACCESS, FOR RIGHT LANE ACCESS, REVERSE THE TRAFFIC CONTROL

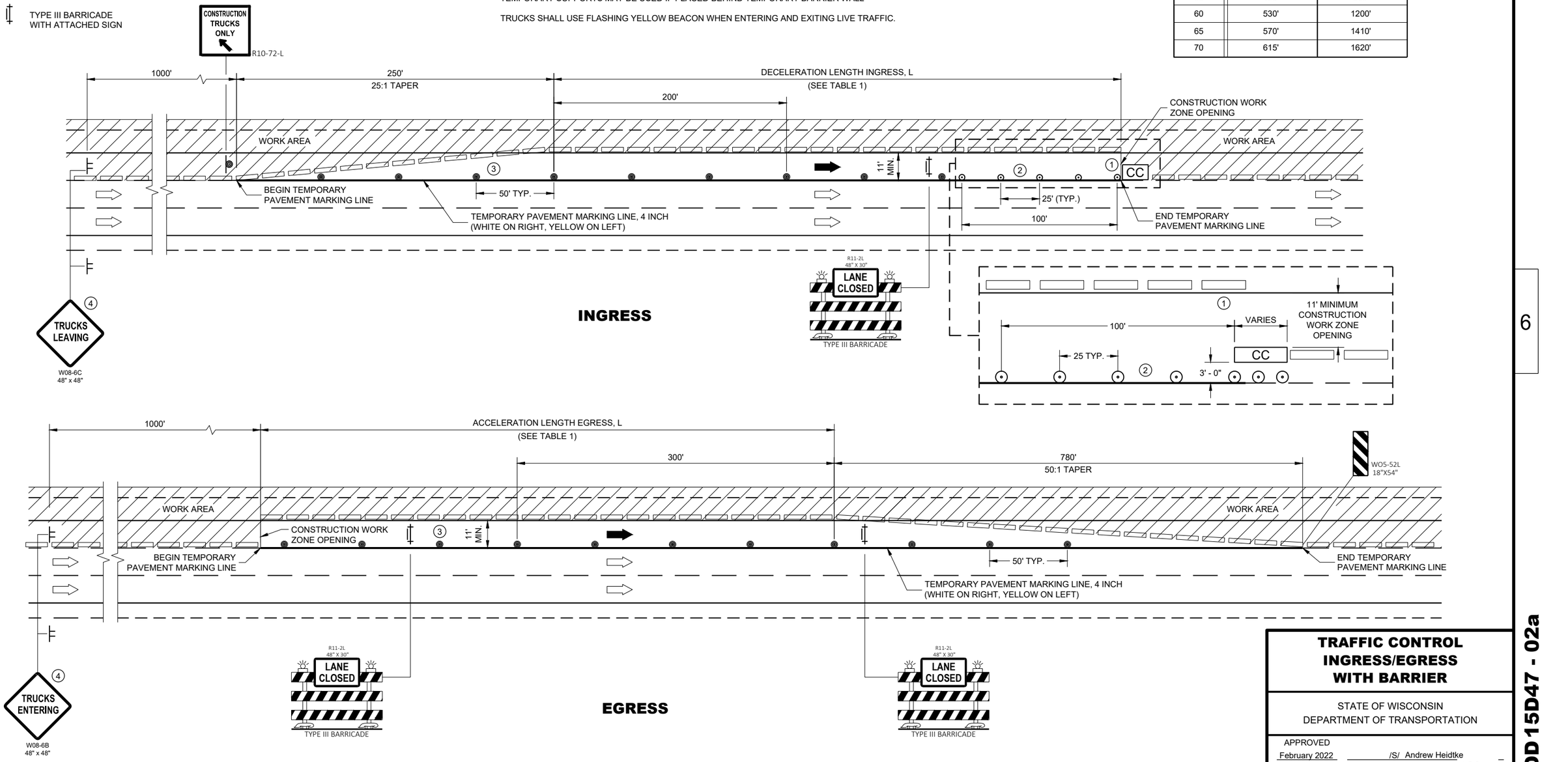
TEMPORARY SUPPORTS MAY BE USED IF PLACED BEHIND TEMPORARY BARRIER WALL

TRUCKS SHALL USE FLASHING YELLOW BEACON WHEN ENTERING AND EXITING LIVE TRAFFIC.

1. WIDEN BARRIER AS NECESSARY TO ACCOMMODATE CRASH CUSHION WIDTH.
2. USE TUBULAR MARKERS TO HELP DELINEATE TEMPORARY CRASH CUSHION.
3. REMOVE DRUMS / BARRICADES WHEN INGRESS / EGRESS ARE IN USE.
4. REMOVE OR COVER WHEN ACCESS IS NOT NEEDED.

### TABLE 1

| S (MPH) | INGRESS, L | EGRESS, L |
|---|---|---|
| 50 | 435' | 720' |
| 55 | 480' | 960' |
| 60 | 530' | 1200' |
| 65 | 570' | 1410' |
| 70 | 615' | 1620' |




**TRAFFIC CONTROL INGRESS/EGRESS WITH BARRIER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

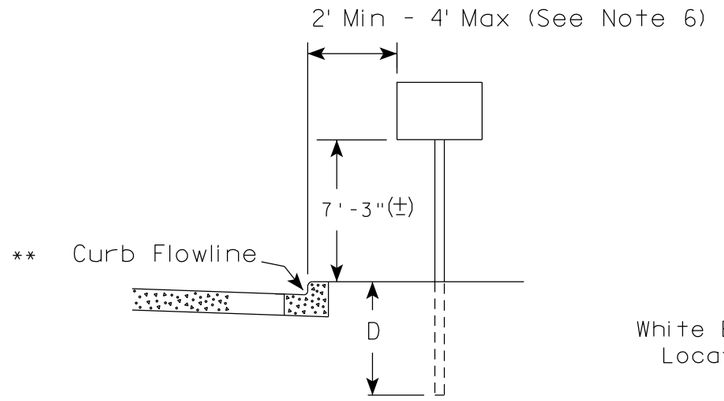
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

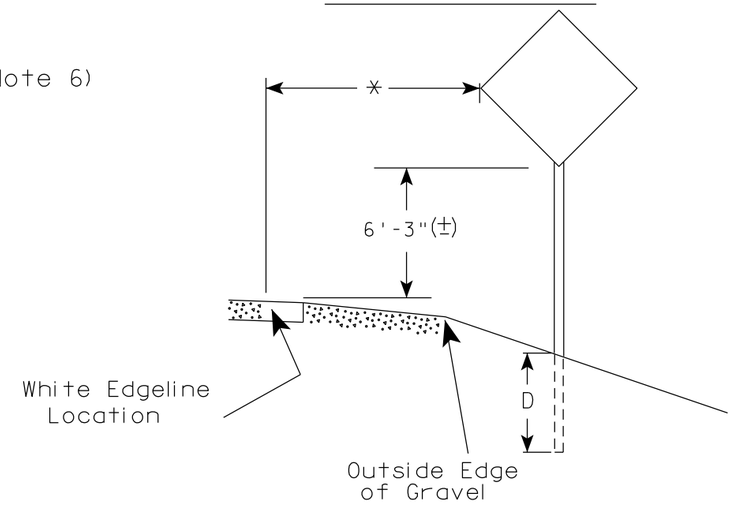


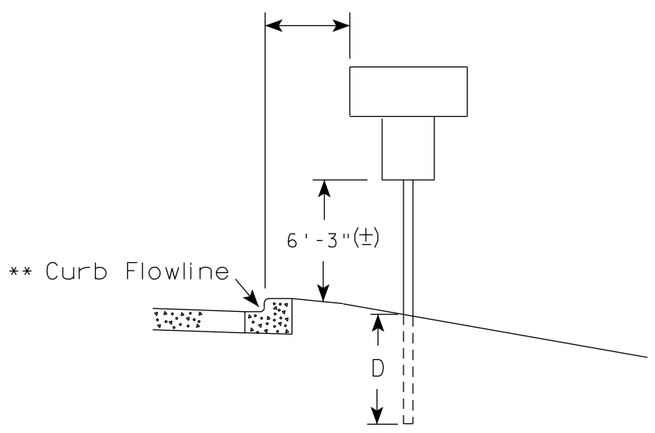
6
SDD 15D47 - 02a

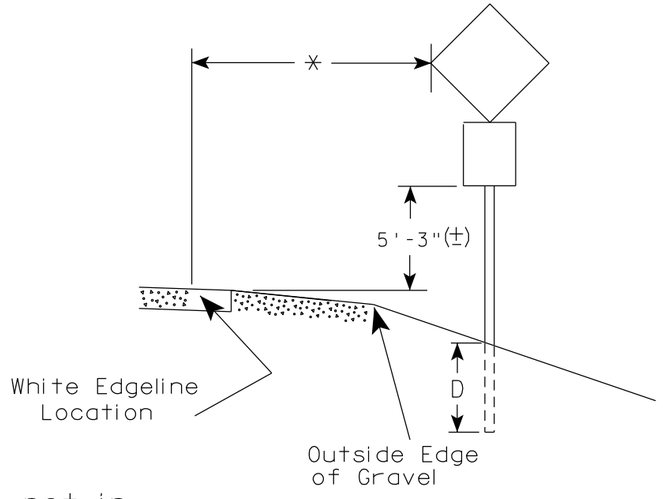
## URBAN AREA




## RURAL AREA (See Note 2)




** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

### POST EMBEDMENT DEPTH

| Area of Sign Installation ( Sq.Ft.) | D ( Min ) |
|---|---|
| 20 or Less | 4' |
| Greater than 20 | 5' |

### GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

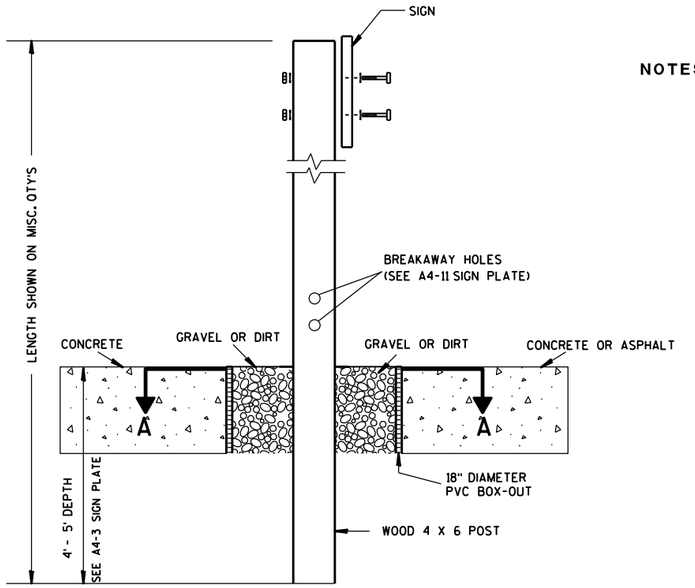
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

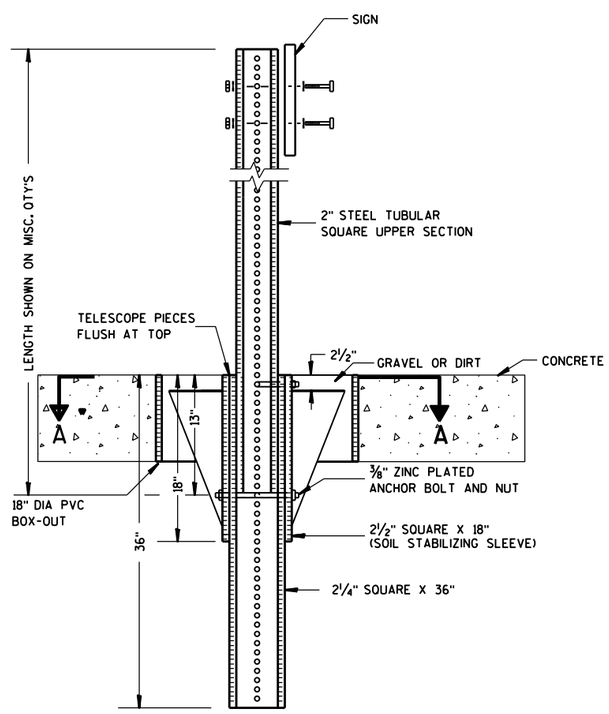
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 181 | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

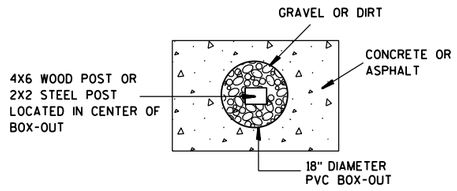
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.




**ELEVATION VIEW**

**DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT**




**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

# SIGN POST BOX-OUTS A4-3B

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

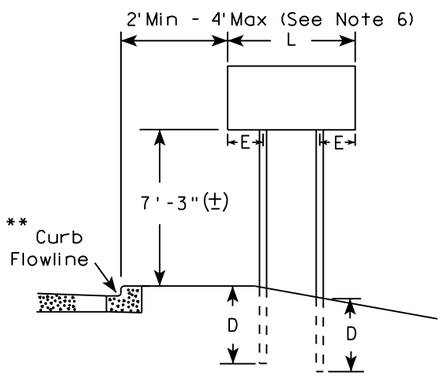
DATE 1/27/14 PLATE NO. A4-3B.1

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

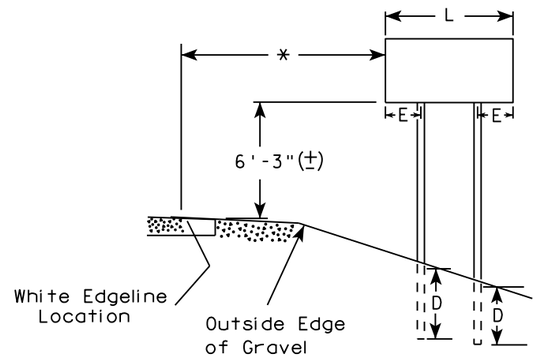


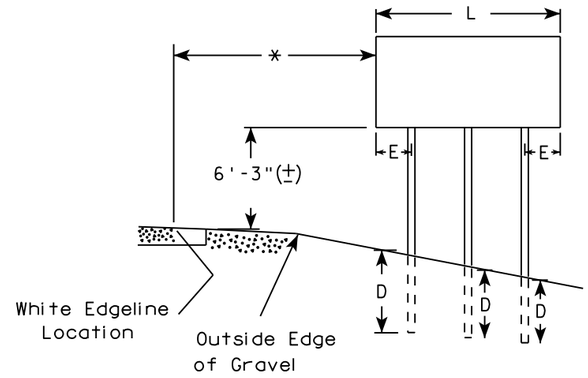
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

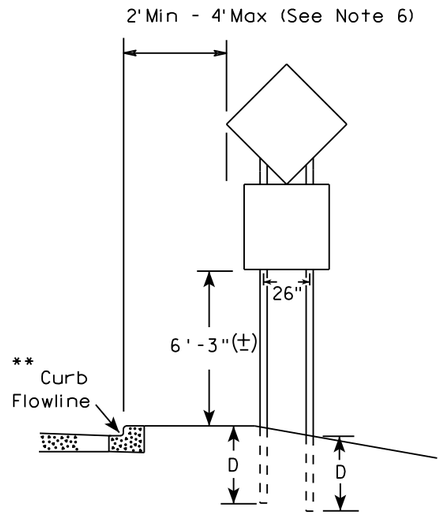
## URBAN AREA



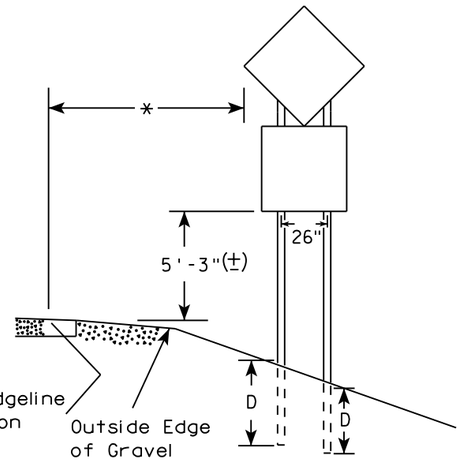

## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN




48" DIAMOND WARNING SIGN

| *** | SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED) | |
|---|---|---|
| | L | E |
| | Greater than 48" Less than 60" | 12" |
| | 60" to 108" | L/5 |

| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 108" to 144" | 12" |

## GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

## POST EMBEDMENT DEPTH

| Area of Sign Installation ( Sq. Ft. ) | D ( Min ) |
|---|---|
| 20 or Less | 4' |
| Greater than 20 | 5' |

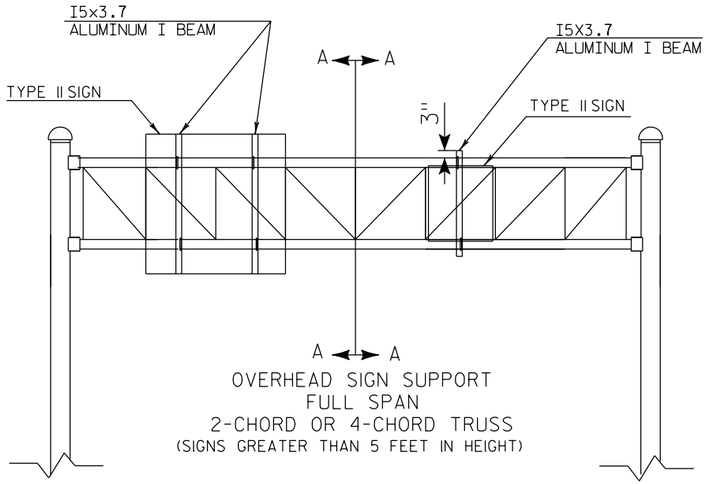
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

*WISCONSIN DEPT OF TRANSPORTATION*

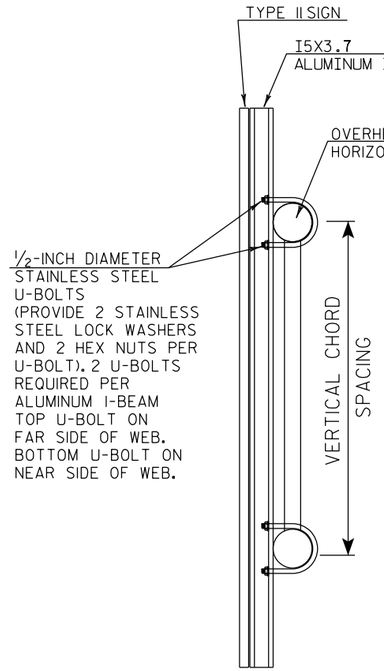
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

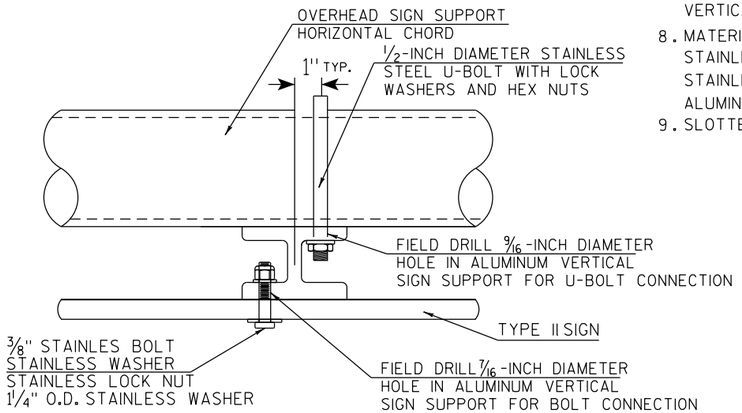
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 183 | E |
|---|---|---|---|---|---|




OVERHEAD SIGN SUPPORT
FULL SPAN
2-CHORD OR 4-CHORD TRUSS
(SIGNS GREATER THAN 5 FEET IN HEIGHT)



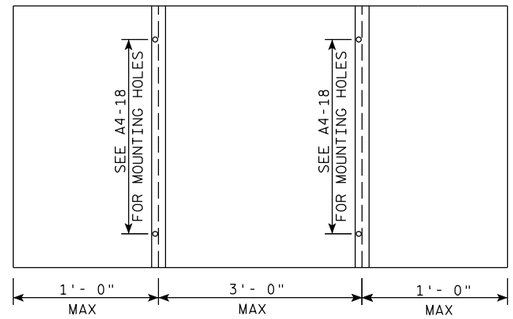

CUT SECTION A-A



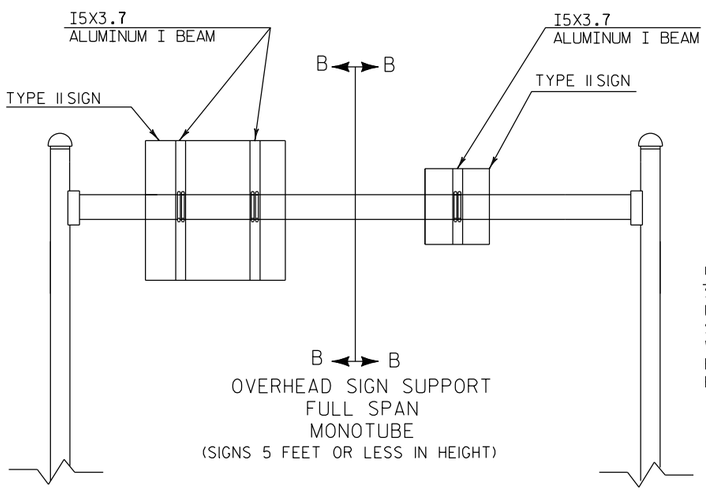

TYPICAL SIGN CONNECTION FOR
2-CHORD OR 4-CHORD TRUSS
PLAN VIEW

GENERAL NOTES

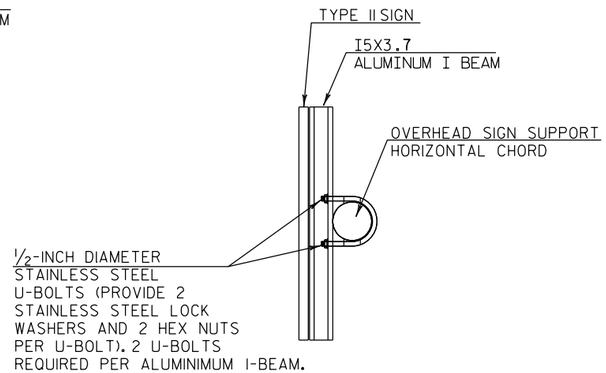
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE STAINLESS BOLTS AT BOLT HOLES IN SIGN PANEL PER SIGN PLATE A4-18.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS, BOLTS, AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.
9. SLOTTED HOLES IN I-BEAMS ARE NOT ALLOWED



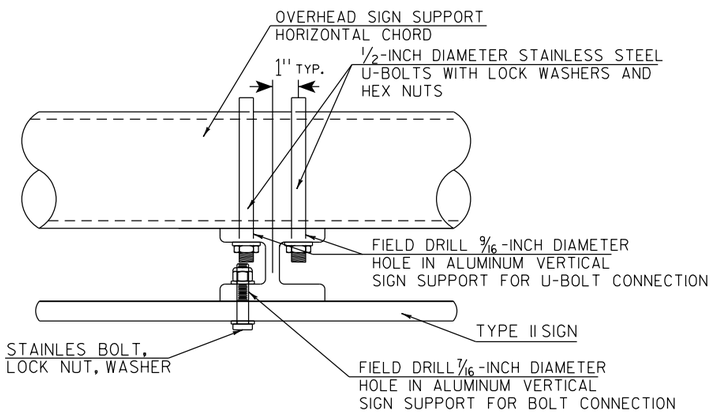

SPACING OF I5X3.7 ALUMINUM
MULTIPLE VERTICAL SIGN SUPPORTS



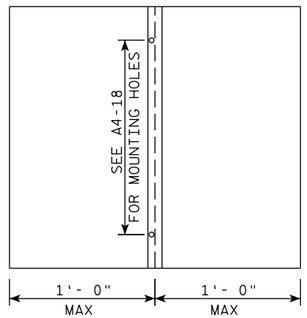

OVERHEAD SIGN SUPPORT
FULL SPAN
MONOTUBE
(SIGNS 5 FEET OR LESS IN HEIGHT)




CUT SECTION B-B




TYPICAL SIGN CONNECTION FOR
MONOTUBE
PLAN VIEW




SPACING OF I5X3.7 ALUMINUM
SINGLE VERTICAL SIGN SUPPORT

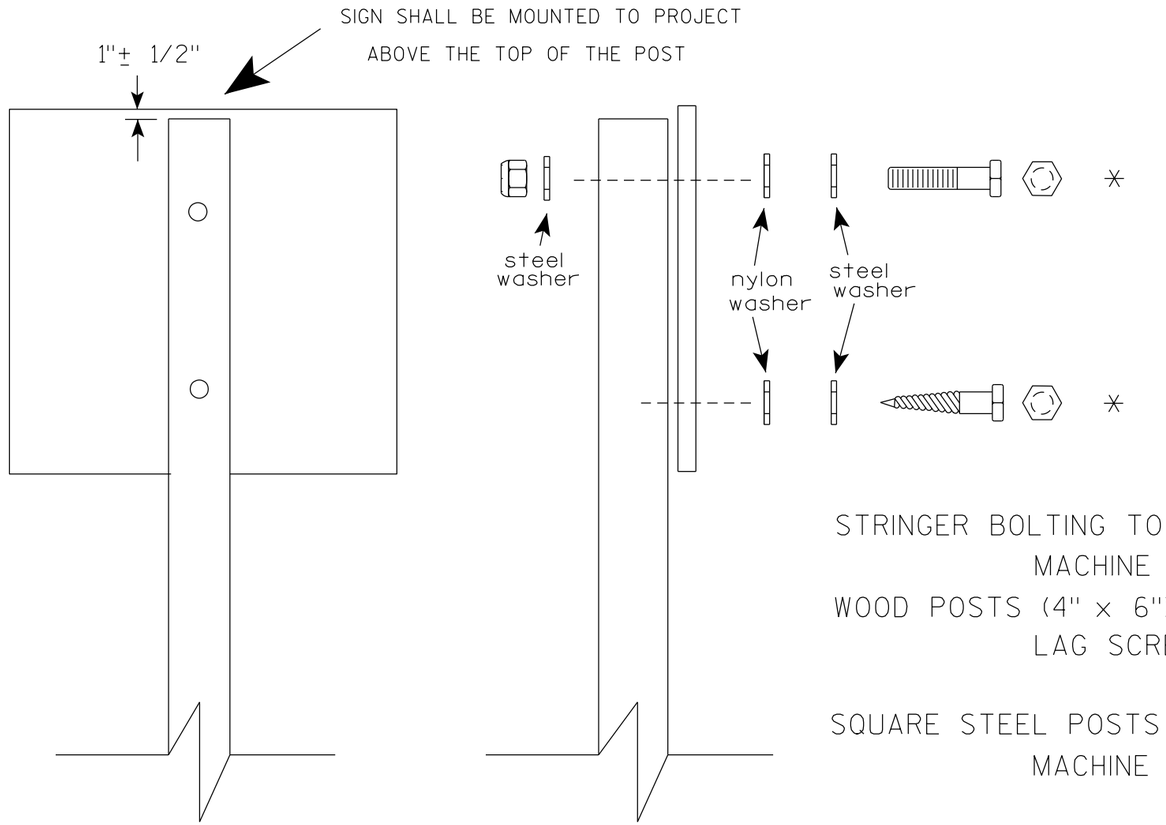
TYPE II SIGN CONNECTION
TO OVERHEAD SIGN SUPPORT

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-7B.1

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 184 | E |
|---|---|---|---|---|---|




Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

# ATTACHMENT OF SIGNS TO POSTS

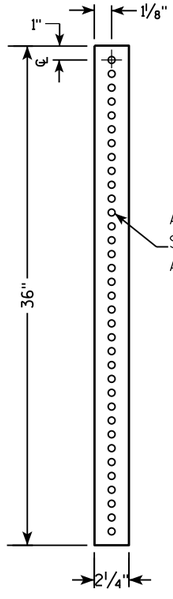
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

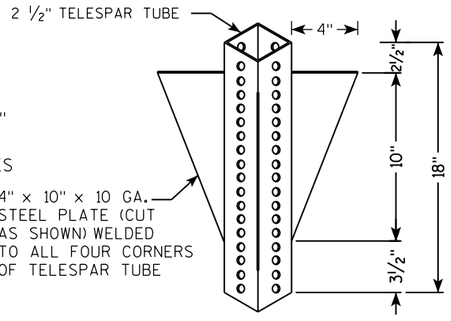
DATE 4/1/2020 PLATE NO. A4-8.9

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

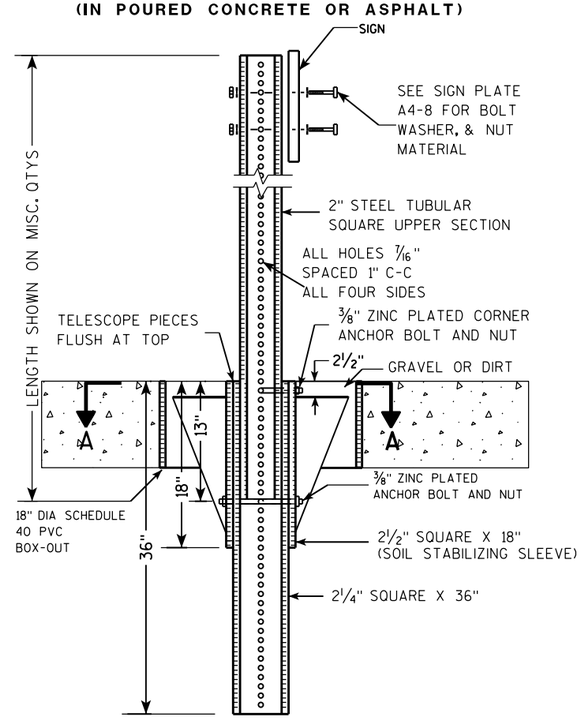
**2 ¼ " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



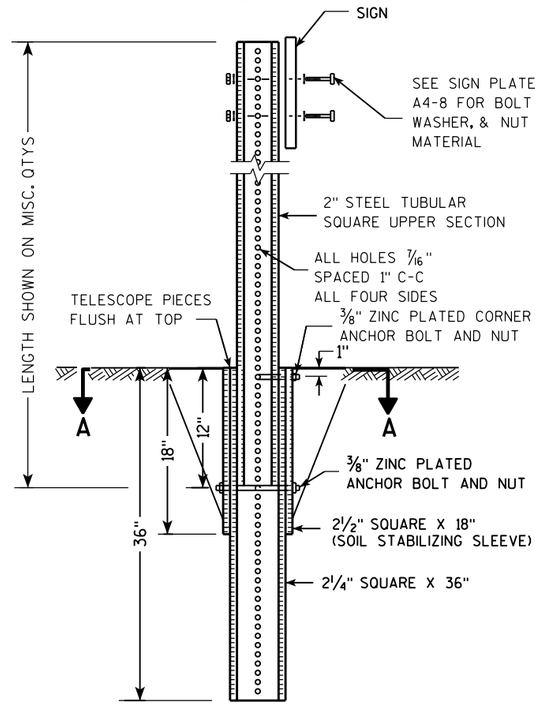

**2 ½ " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

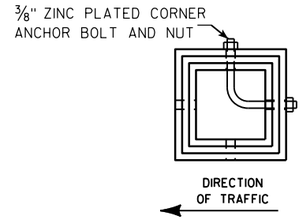



## DETAIL OF TUBULAR STEEL SIGN POST
**(IN POURED CONCRETE OR ASPHALT)**




## DETAIL OF TUBULAR STEEL SIGN POST
**(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**




**SECTION A-A**

| Area of Sign Installation (Sq. Ft.) | Number of Required Posts |
|---|---|
| 9 or less | 1 |
| Greater than 9 less than or equal to 18 | 2 |
| Greater than 18 less than or equal to 27 | 3 |

**Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).**

TUBULAR STEEL
SIGN POST
A4-9

*WISCONSIN DEPT OF TRANSPORTATION*

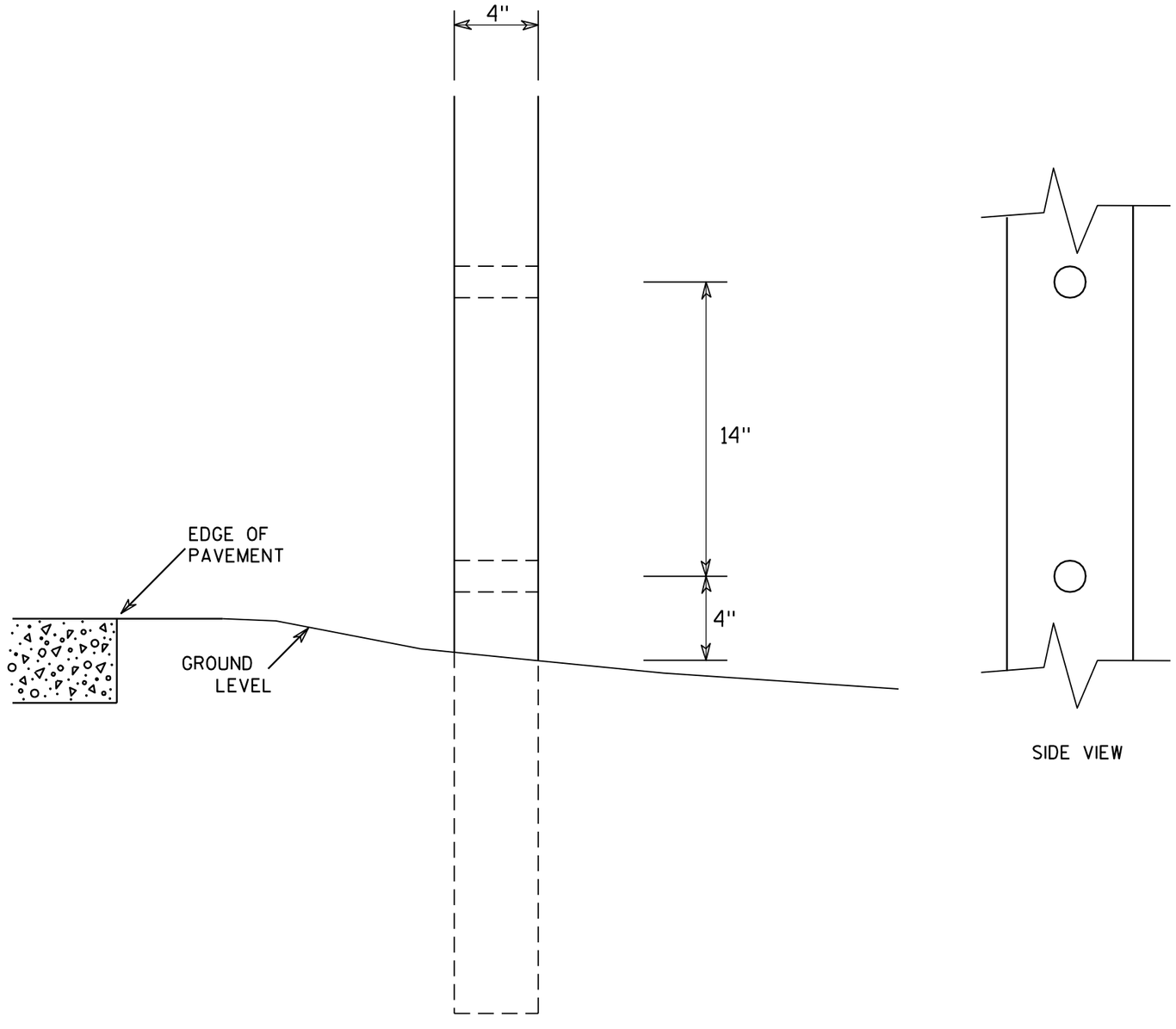
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42






SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

# 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

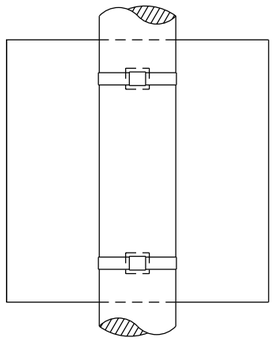
APPROVED Chester J Spang for State Traffic Engineer

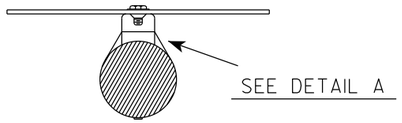
DATE 3/27/97 PLATE NO. A4-11.2

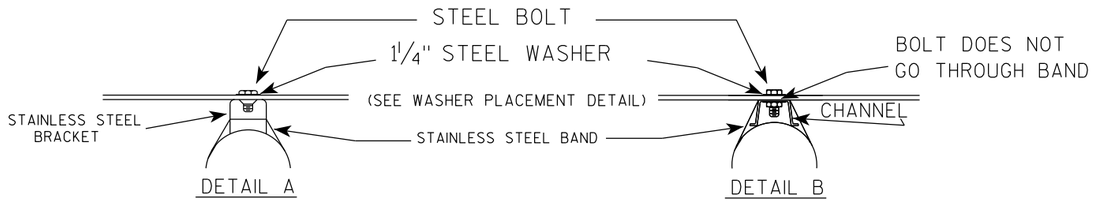
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 187 | E |
|---|---|---|---|---|---|

# BANDING

SINGLE SIGN



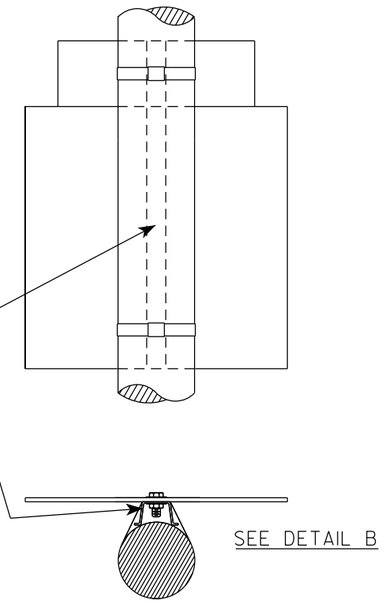


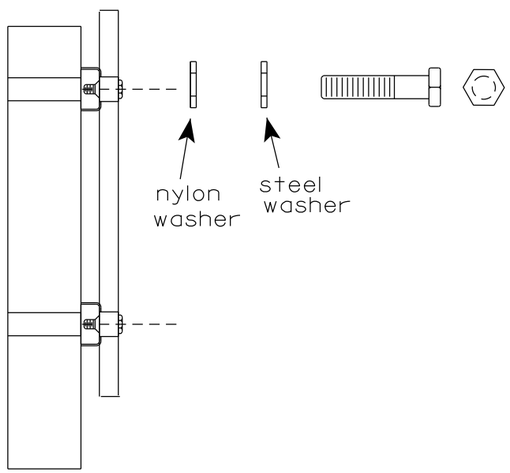

## GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY




WASHER PLACEMENT




WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

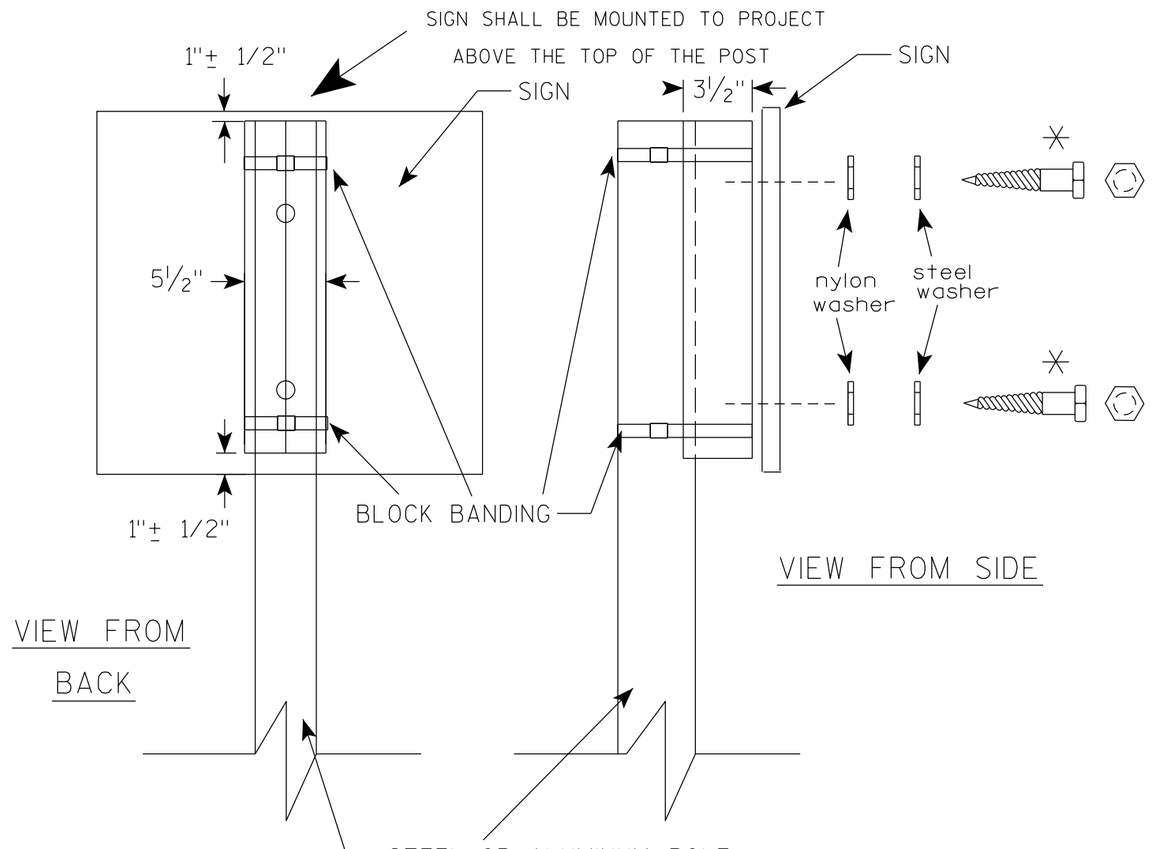
DATE 6/10/19 PLATE NO. A5-9.4

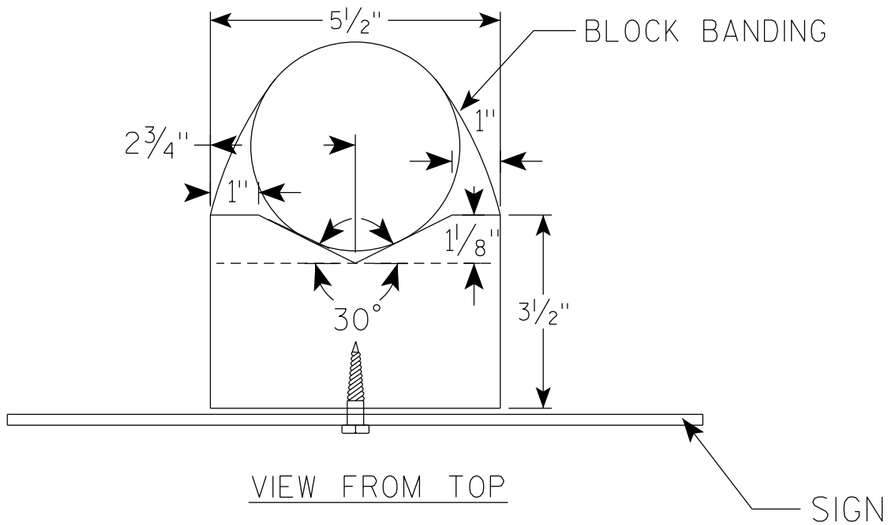
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 188 | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7




## GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

# BLOCK BANDING DETAIL ( V-BLOCK OPTION )

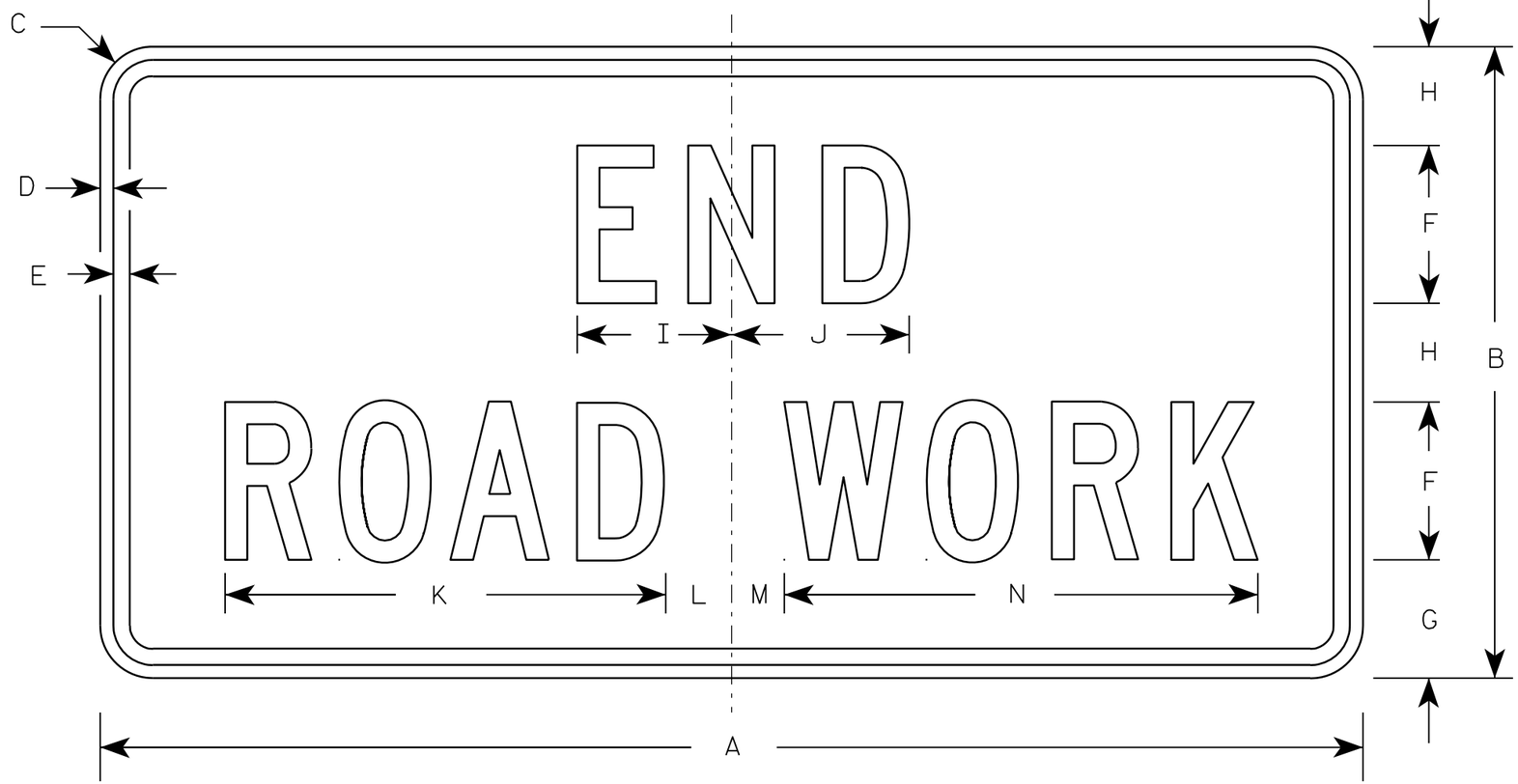
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 189 E




G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

| SIZE | |
|---|---|
| 1 | 900 mm X 450 mm |
| 2 | 1200 mm X 600 mm |
| 3 | 1200 mm X 600 mm |
| 4 | 1200 mm X 600 mm |
| 5 | 1200 mm X 600 mm |

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. | Area m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 4 | 3 3/4 | 2 1/2 | 4 1/8 | 4 1/8 | 11 1/8 | 2 | 1 | 12 1/8 | | | | | | | | | | | | | 4.5 | 0.41 |
| 2 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |
| 3 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |
| 4 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |
| 5 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

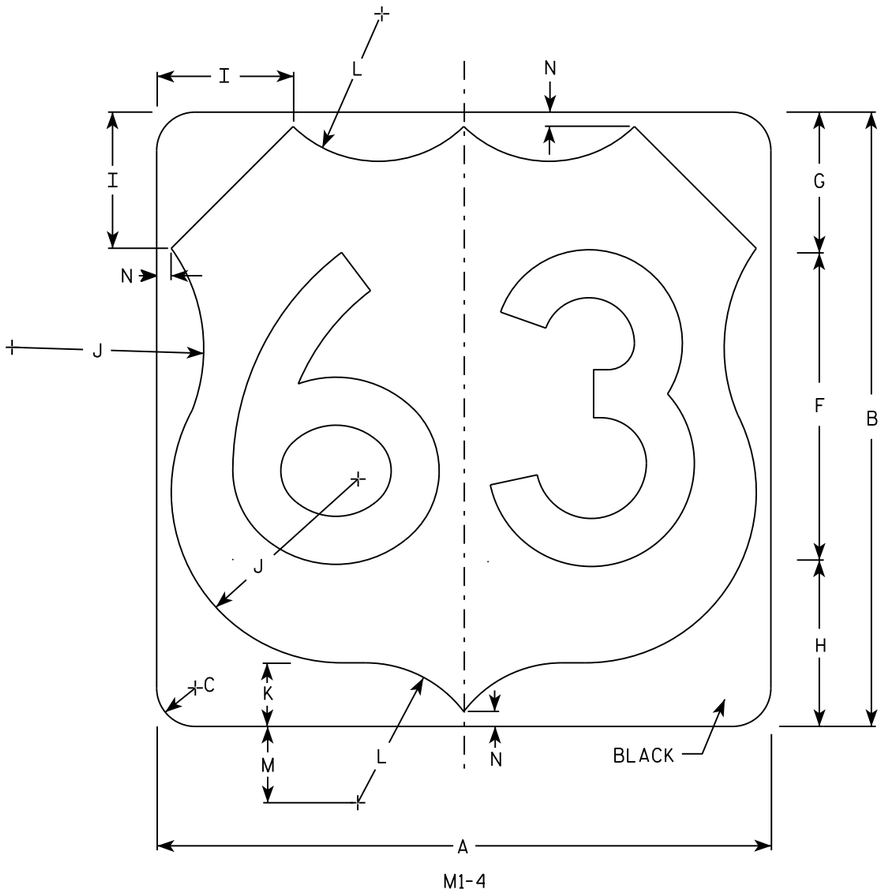
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

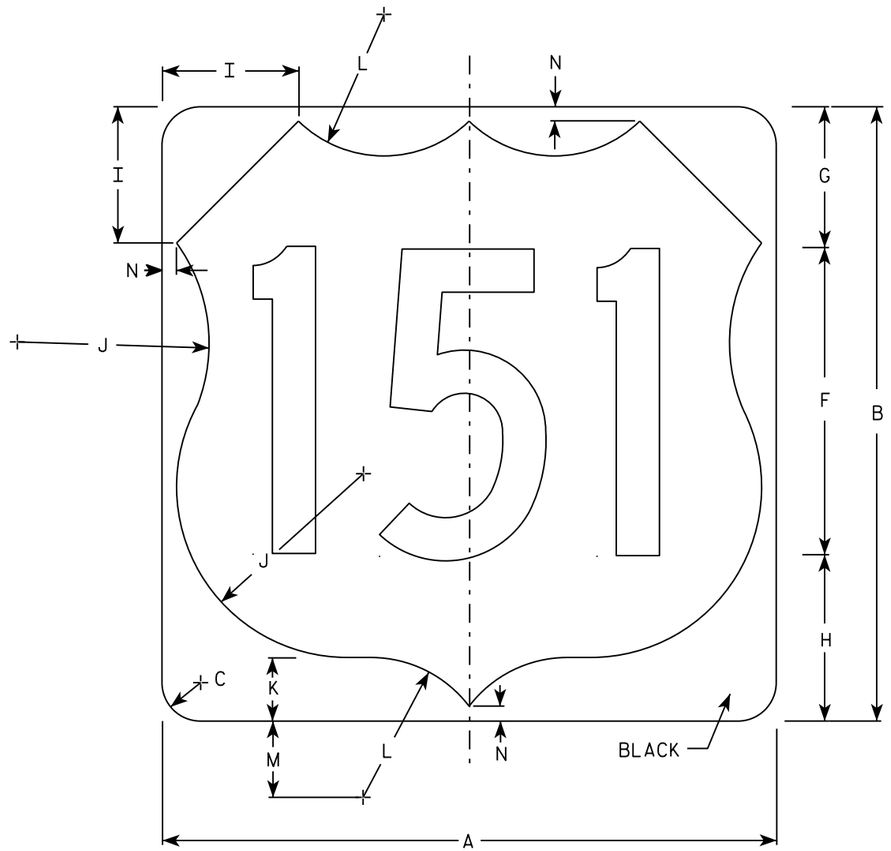
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 190 | E |
|---|---|---|---|---|---|

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.




M1-4




M1-4

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area Sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 24 | 1 1/2 | | | 12 | 5 1/2 | 6 1/2 | 5 | 7 1/2 | 2 1/2 | 5 1/2 | 3 | 1/2 | | | | | | | | | | | | | 4.0 |
| 3 | 36 | 36 | 2 1/4 | | | 18 | 8 1/4 | 9 1/4 | 7 1/4 | 11 1/4 | 3 3/4 | 8 1/4 | 4 1/2 | 3/4 | | | | | | | | | | | | | 9.0 |
| 4 | 36 | 36 | 2 1/4 | | | 18 | 8 1/4 | 9 1/4 | 7 1/4 | 11 1/4 | 3 3/4 | 8 1/4 | 4 1/2 | 3/4 | | | | | | | | | | | | | 9.0 |
| 5 | 36 | 36 | 2 1/4 | | | 18 | 8 1/4 | 9 1/4 | 7 1/4 | 11 1/4 | 3 3/4 | 8 1/4 | 4 1/2 | 3/4 | | | | | | | | | | | | | 9.0 |

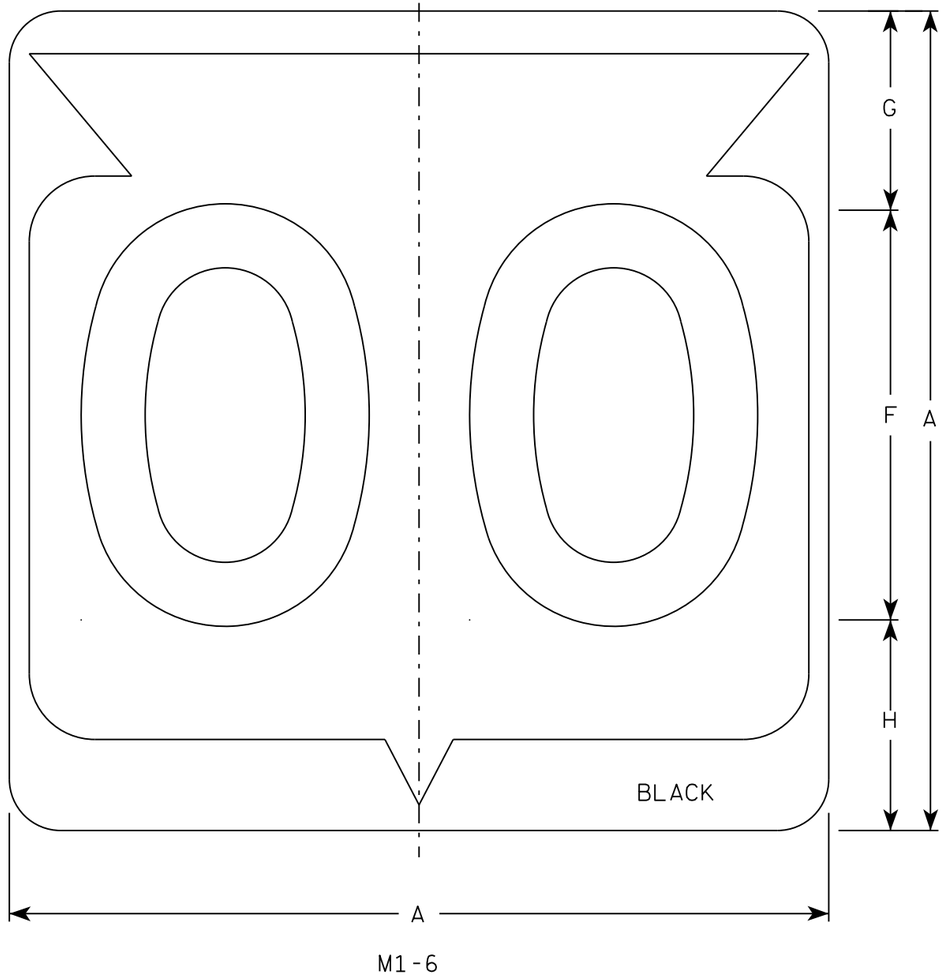
USH MARKER
M1-4 FOR ASSEMBLIES

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-4.10

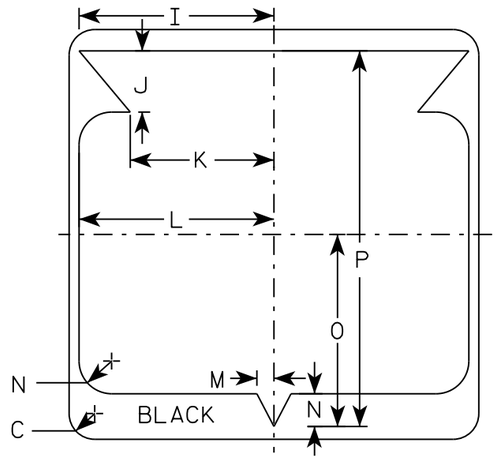
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 191 | E |
|---|---|---|---|---|---|




M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | | 1 1/2 | | | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8 | 11 1/2 | 1 | 1 7/8 | 11 1/4 | 21 7/8 | | | | | | | | | | | 4.0 |
| 3 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 |
| 4 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 |
| 5 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 |

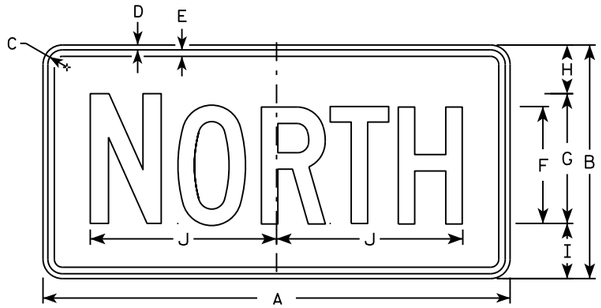
# STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

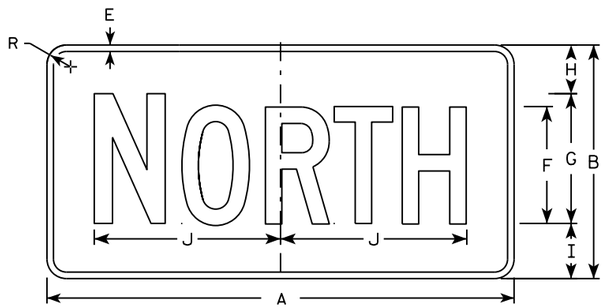
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 192 | E




M3-1
MM3-1
MP3-1



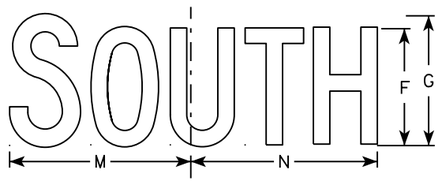

MB3-1
MK3-1
MN3-1



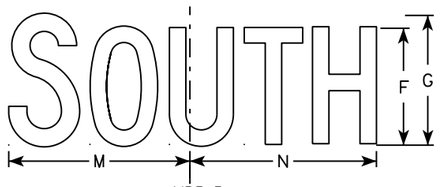

M3-2
MM3-2
MP3-2



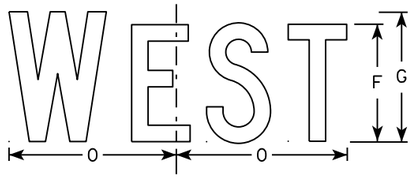

MB3-2
MK3-2
MN3-2



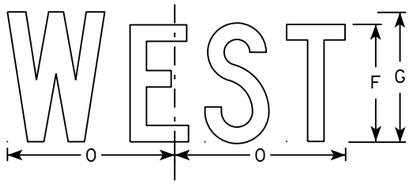

M3-3
MM3-3
MP3-3




MB3-3
MK3-3
MN3-3




M3-4
MM3-4
MP3-4




MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 6 | 7 | 2 1/4 | 2 3/4 | 10 1/4 | 7 7/8 | 8 3/8 | 10 1/4 | 9 3/4 | 8 3/4 | | | 1 1/2 | | | | | | | | | 2.00 |
| 3 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | 1 1/2 | | | | | | | | | 4.5 |
| 4 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | 1 1/2 | | | | | | | | | 4.5 |
| 5 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | 1 1/2 | | | | | | | | | 4.5 |

STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

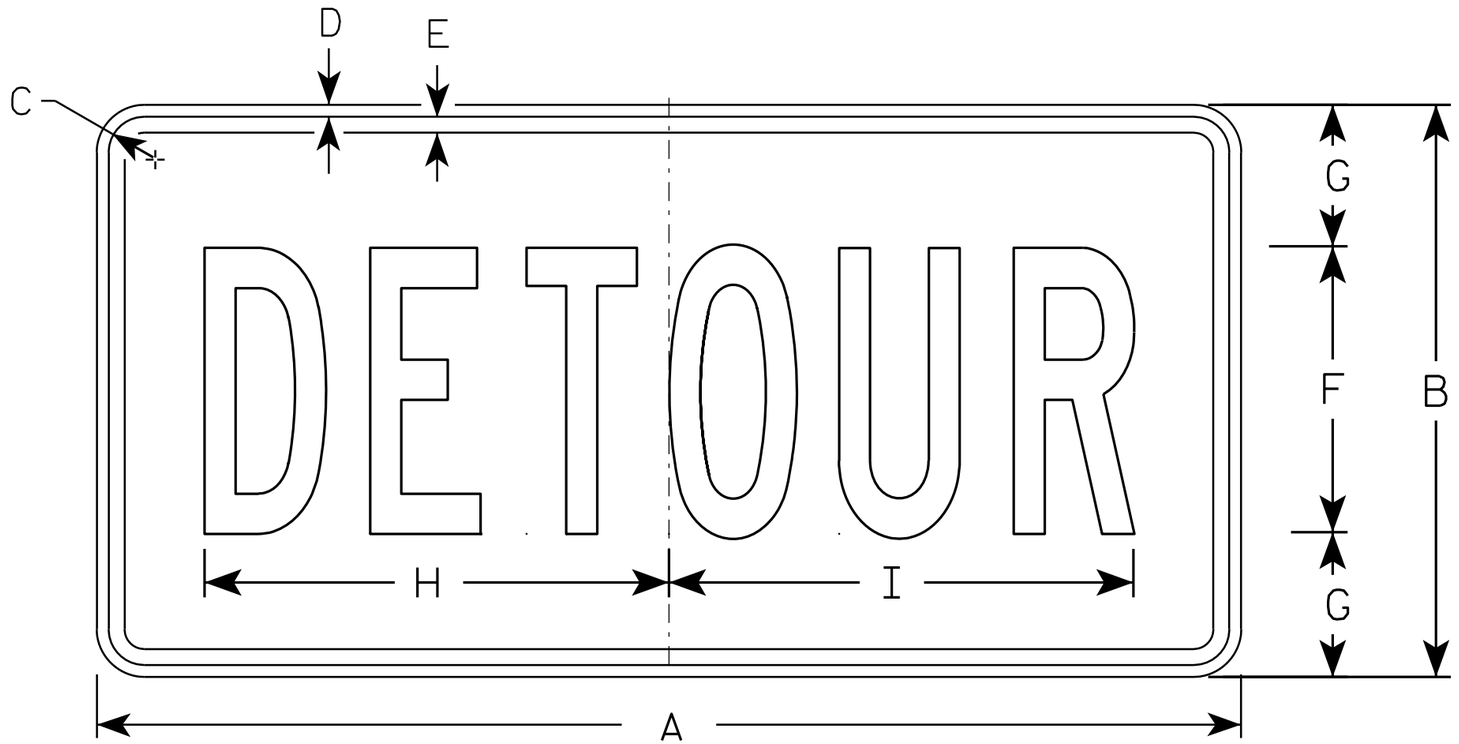
APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14



PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000




M4-8

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 6 | 3 | 10 | 10 1/4 | | | | | | | | | | | | | | | | | | 2.0 |
| 3 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 | | | | | | | | | | | | | | | | | | 4.5 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

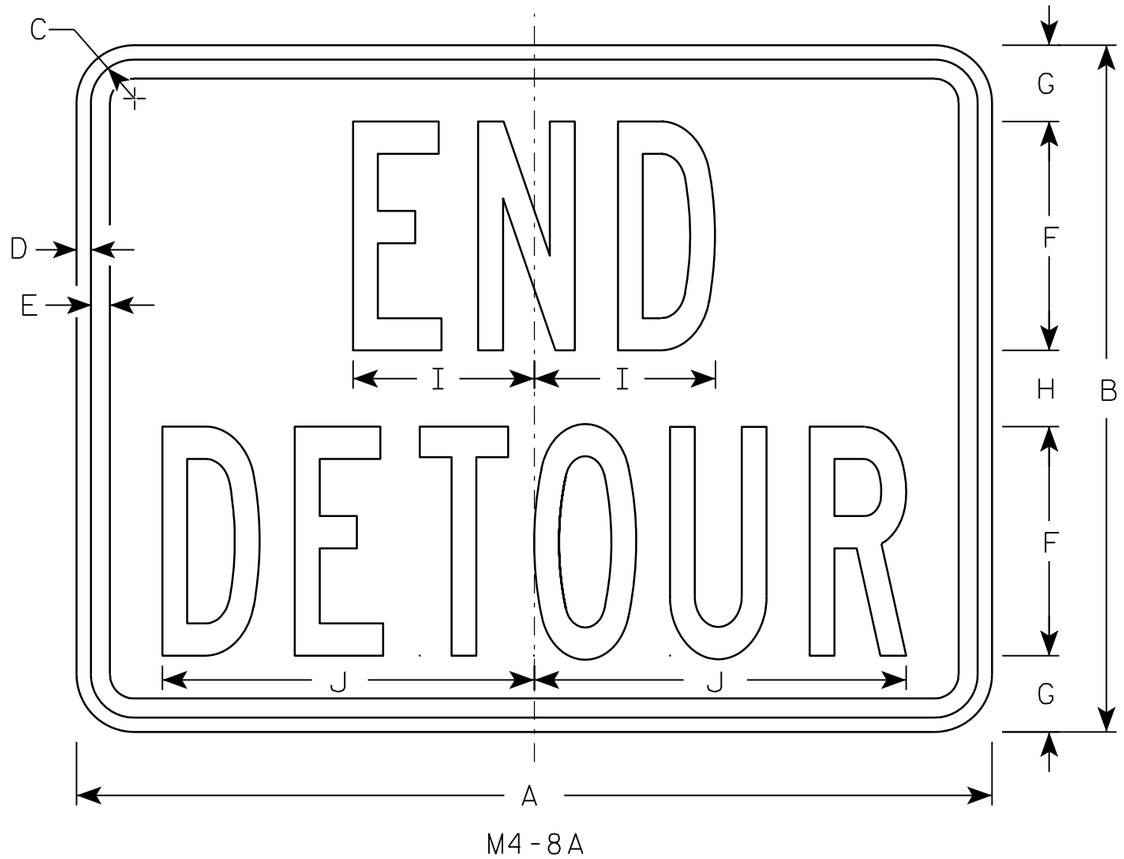
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 194 | E |
|---|---|---|---|---|---|




M4-8A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 18 | 1 1/8 | 3/8 | 1/2 | 6 | 2 | 2 | 4 3/4 | 9 3/4 | | | | | | | | | | | | | | | | | 3.0 |
| 3 | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 8 | 2 1/2 | 3 | 6 3/4 | 13 | | | | | | | | | | | | | | | | | 5.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

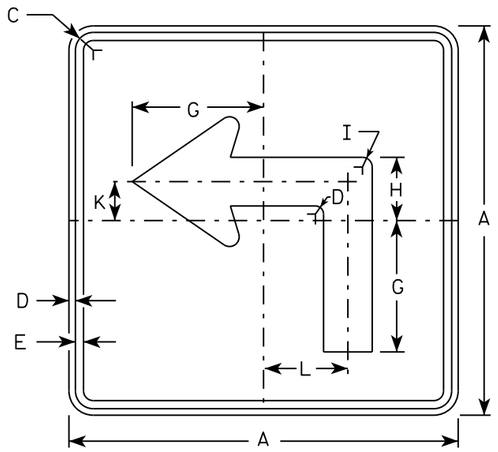
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

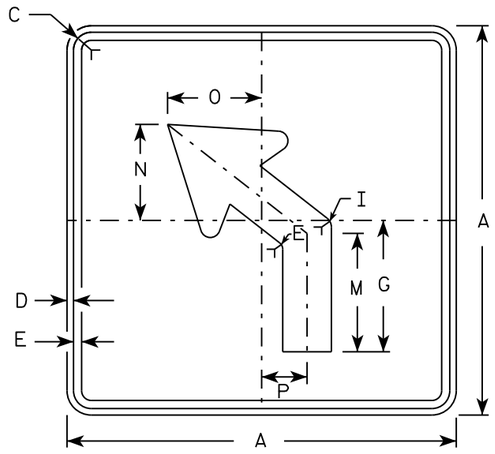
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

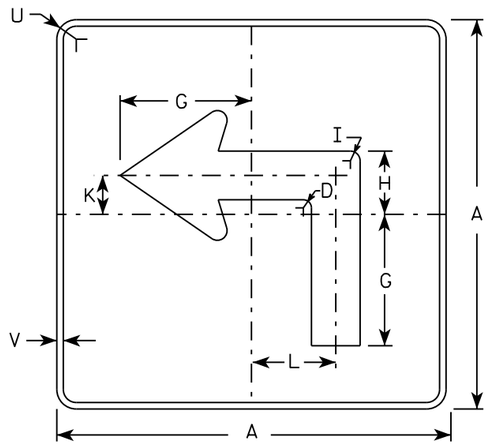
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 195 | E |
|---|---|---|---|---|---|



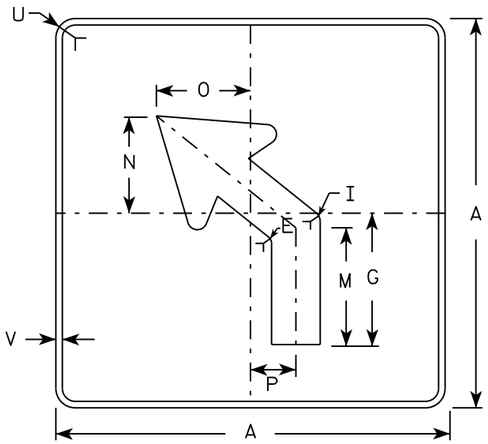

M5-1L
MM5-1L
MO5-1L
MP5-1L



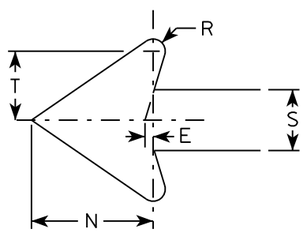

M5-2L
MM5-2L
MO5-2L
MP5-2L




MB5-1L
MK5-1L
MN5-1L
MR5-1L




MB5-2L
MK5-2L
MN5-2L
MR5-2L




## NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 21 | | 1 1/8 | 3/8 | 3/8 | | 7 | 3 3/8 | 5/8 | | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5 | 2 1/2 | | 1/2 | 2 5/8 | 3 | 1 1/2 | 1/2 | | | | | 3.06 |
| 3 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 | | | | | 6.25 |
| 4 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 | | | | | 6.25 |
| 5 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 | | | | | 6.25 |

# STANDARD SIGN
# M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

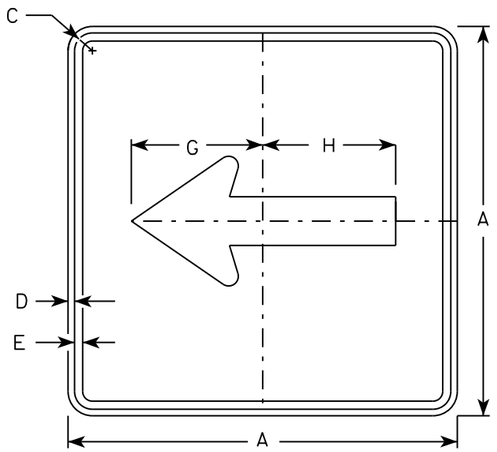
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M5-1.13

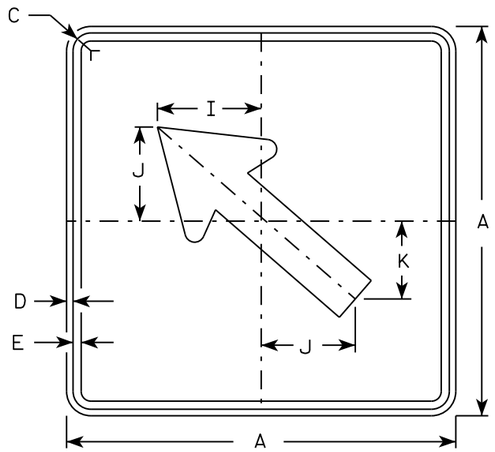


PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



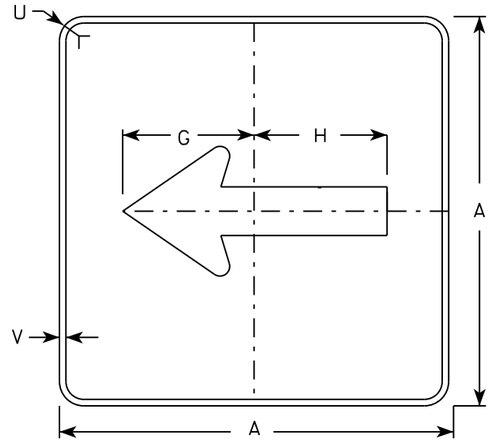

M6-1
MM6-1
MO6-1
MP6-1



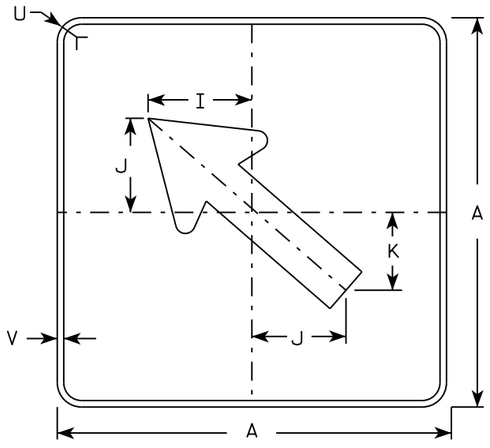

M6-2
MM6-2
MO6-2
MP6-2

NOTES

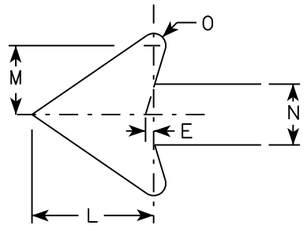
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow




MB6-1
MK6-1
MN6-1
MR6-1




MB6-2
MK6-2
MN6-2
MR6-2




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 21 | | 1 1/8 | 3/8 | 3/8 | | 7 1/2 | 7 1/8 | 5 5/8 | 5 | 4 1/4 | 5 1/4 | 3 | 2 5/8 | 1/2 | | | | | | 1 1/2 | 1/2 | | | | | | 3.06 |
| 3 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | 1 7/8 | 1/2 | | | | | | 6.25 |
| 4 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | 1 7/8 | 1/2 | | | | | | 6.25 |
| 5 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | 1 7/8 | 1/2 | | | | | | 6.25 |

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

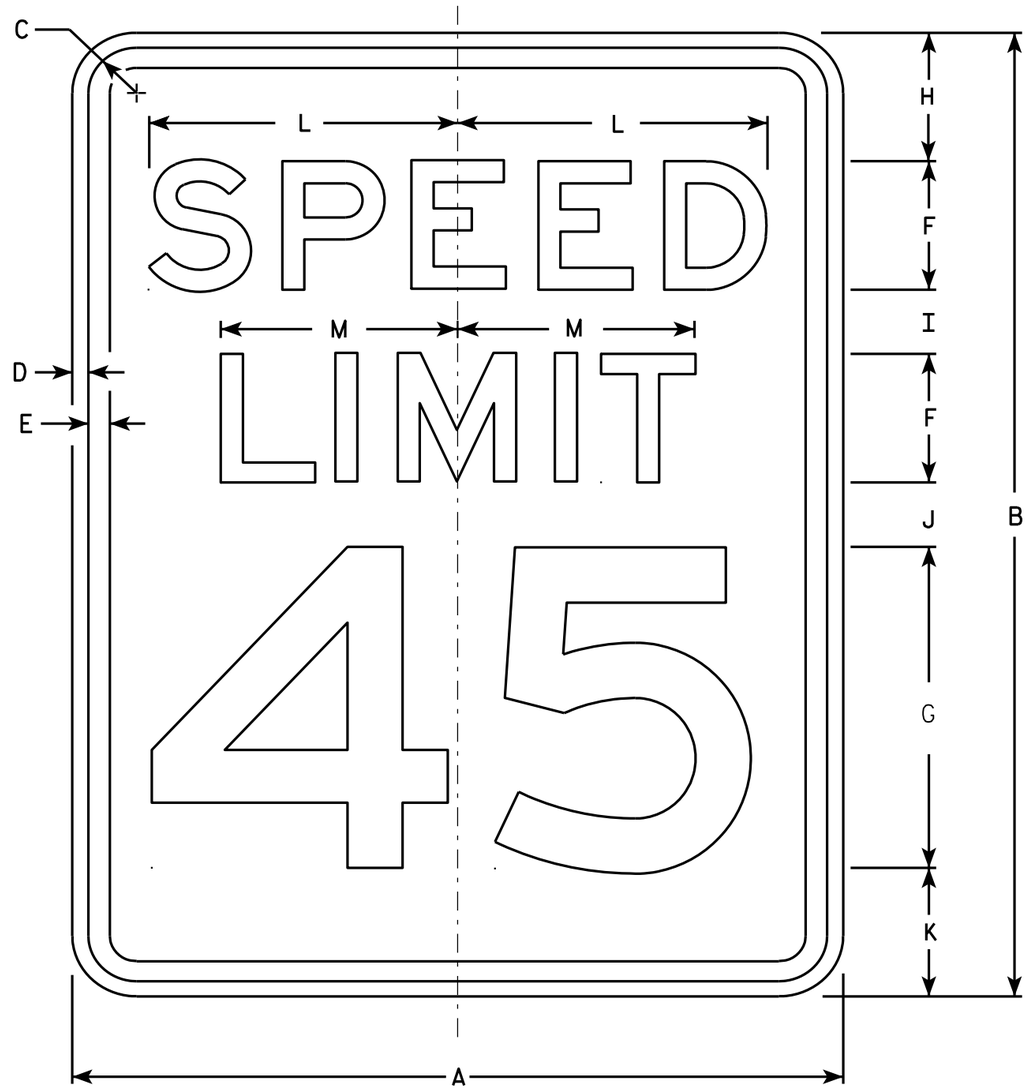
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 197 M6-1.15

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000




R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 3 | 8 | 3 | 2 | 2 | 3 | 7 1/4 | 5 1/2 | | | | | | | | | | | | | | 3.0 |
| 2S | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 4 | 10 | 3 | 2 1/4 | 3 3/8 | 3 3/8 | 9 5/8 | 7 3/8 | | | | | | | | | | | | | | 5.0 |
| 2M | 30 | 36 | 1 3/8 | 1/2 | 5/8 | 5 | 12 | 5 | 2 1/2 | 2 1/2 | 4 | 12 | 9 1/4 | | | | | | | | | | | | | | 7.5 |
| 3 | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5 | 5 | 6 | 14 3/8 | 11 | | | | | | | | | | | | | | 12.0 |
| 4 | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5 | 5 | 6 | 14 3/8 | 11 | | | | | | | | | | | | | | 12.0 |
| 5 | 48 | 60 | 2 1/4 | 3/4 | 1 | 8 | 20 | 6 | 4 1/2 | 6 3/4 | 6 3/4 | 19 1/4 | 14 5/8 | | | | | | | | | | | | | | 20.0 |

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

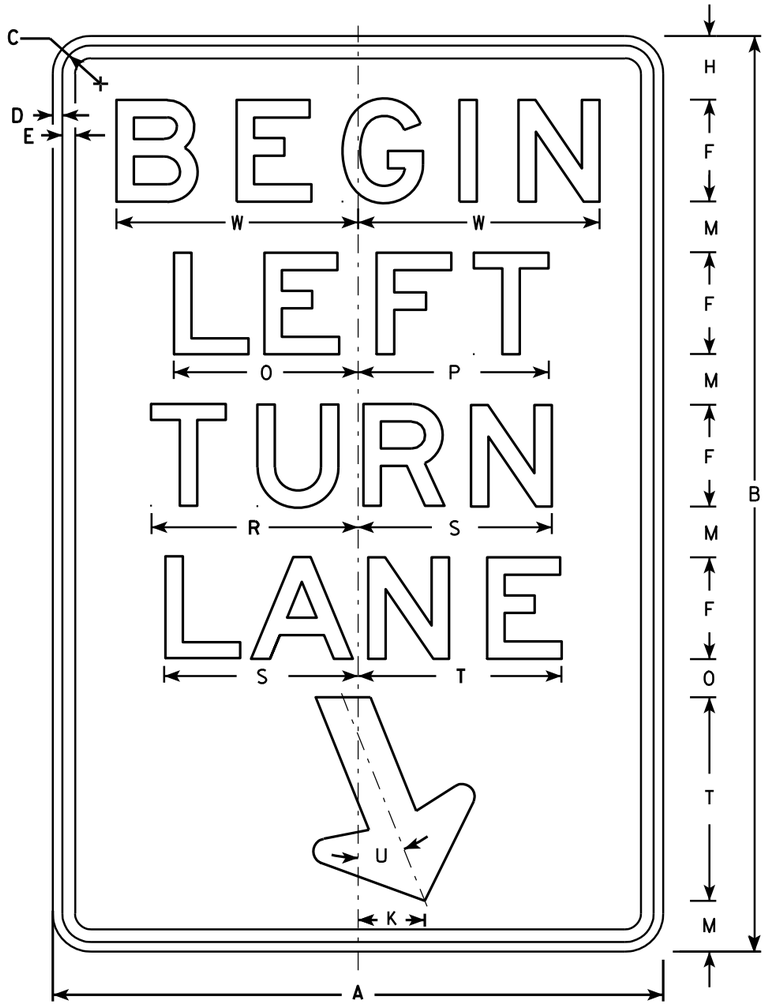
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 198 | E




FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000

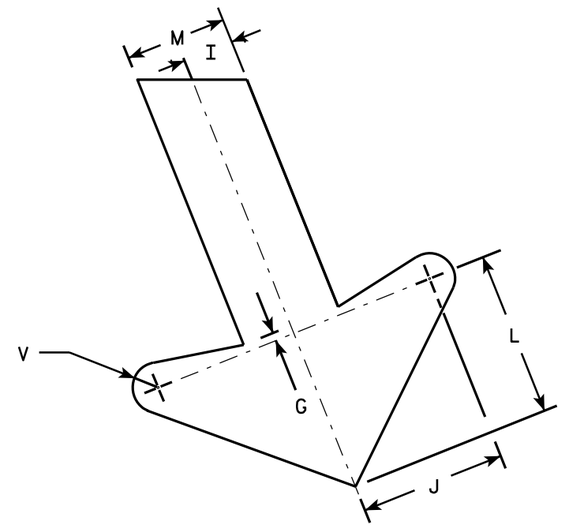
WISDOT/CADDS SHEET 42




R3-20L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.




ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | 36 | 1 1/8 | 3/8 | 1/2 | 4 | 1/4 | 2 1/2 | 1 | 2 7/8 | 2 5/8 | 3 1/4 | 2 | 1 1/2 | 7 1/4 | 7 1/2 | | 8 1/8 | 7 5/8 | 8 | 22° | 1/2 | 9 1/2 | | | | 6.0 |
| 2M | 24 | 36 | 1 1/8 | 3/8 | 1/2 | 4 | 1/4 | 2 1/2 | 1 | 2 7/8 | 2 5/8 | 3 1/4 | 2 | 1 1/2 | 7 1/4 | 7 1/2 | | 8 1/8 | 7 5/8 | 8 | 22° | 1/2 | 9 1/2 | | | | 6.0 |
| 3 | 36 | 54 | 1 3/4 | 1/2 | 5/8 | 6 | 3/8 | 3 3/4 | 1 1/2 | 4 1/4 | 4 | 4 7/8 | 3 | 2 1/4 | 10 7/8 | 11 1/4 | | 12 1/4 | 11 1/2 | 12 | 22° | 3/4 | 13 1/4 | | | | 13.5 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

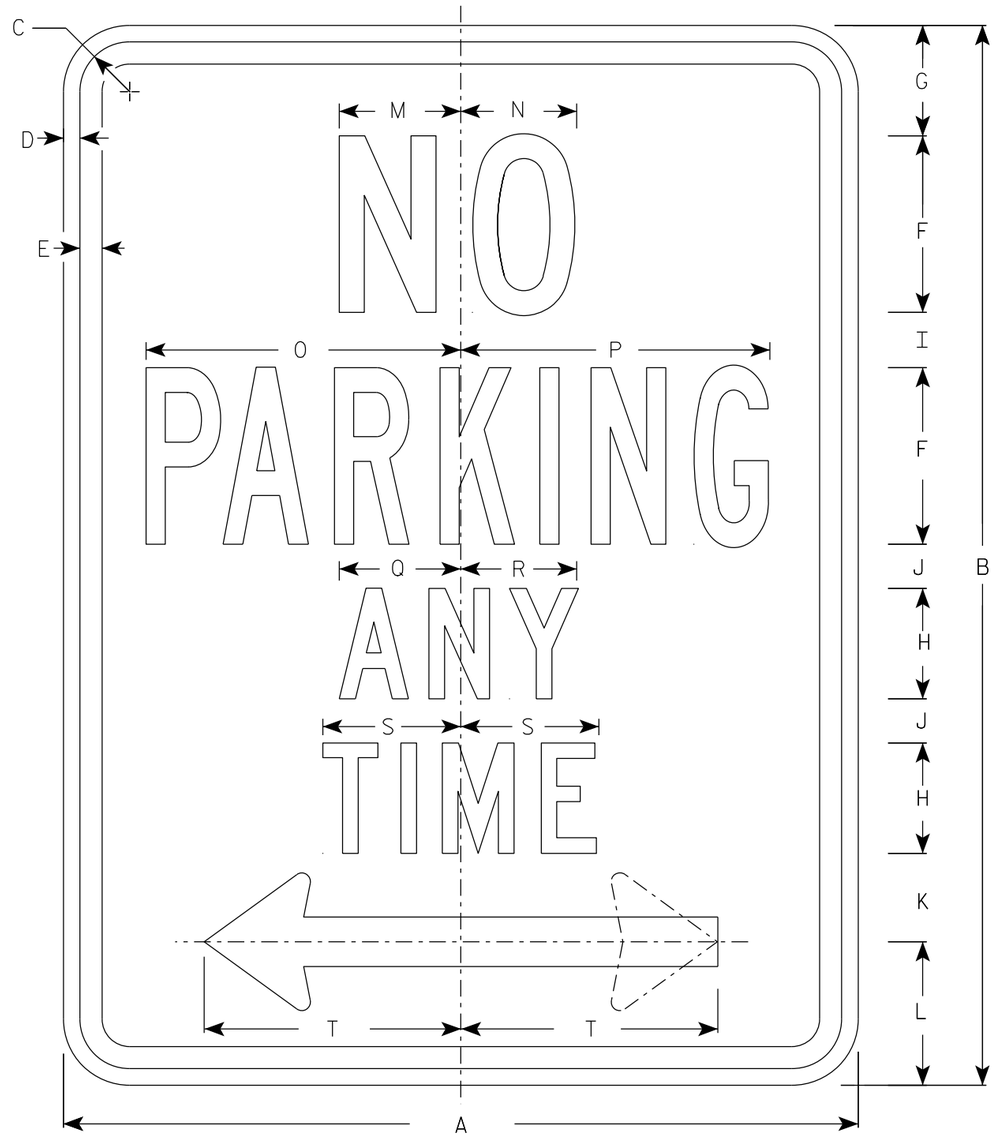
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

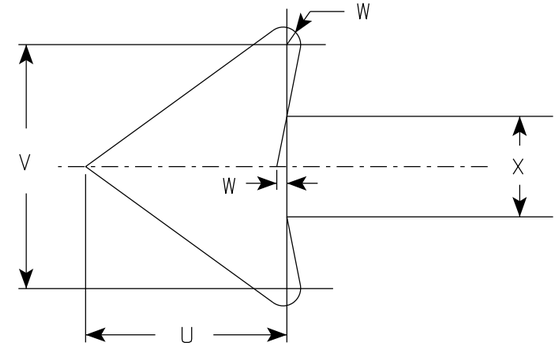
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 199 | E




R7-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Lines 1, 3 and 4 are series C, line 2 is series B.
5. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12 | 18 | 1 1/8 | 3/8 | 3/8 | 3 | 1 7/8 | 2 | 7/8 | 5/8 | 1 1/2 | 2 1/2 | 2 | 2 | 4 7/8 | 4 7/8 | 2 1/4 | 2 1/8 | 2 1/2 | 3 7/8 | 1 1/2 | 1 3/4 | 1/8 | 3/4 | | | 1.5 |
| 2S | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 4 | 2 1/2 | 2 1/2 | 1 1/4 | 1 | 2 | 3 1/4 | 2 3/4 | 2 5/8 | 7 1/8 | 7 | 2 3/4 | 2 5/8 | 3 1/8 | 5 7/8 | 2 1/4 | 2 5/8 | 1/4 | 1 1/8 | | | 3.0 |
| 2M | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 5 | 3 | 3 | 2 | 1 1/4 | 2 1/2 | 4 | 3 1/4 | 3 3/8 | 9 1/4 | 9 1/4 | 3 1/4 | 3 1/4 | 3 3/4 | 7 3/4 | 3 | 3 1/2 | 1/4 | 1 1/2 | | | 5.0 |
| 3 | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 5 | 3 | 3 | 2 | 1 1/4 | 2 1/2 | 4 | 3 1/4 | 3 3/8 | 9 1/4 | 9 1/4 | 3 1/4 | 3 1/4 | 3 3/4 | 7 3/4 | 3 | 3 1/2 | 1/4 | 1 1/2 | | | 5.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

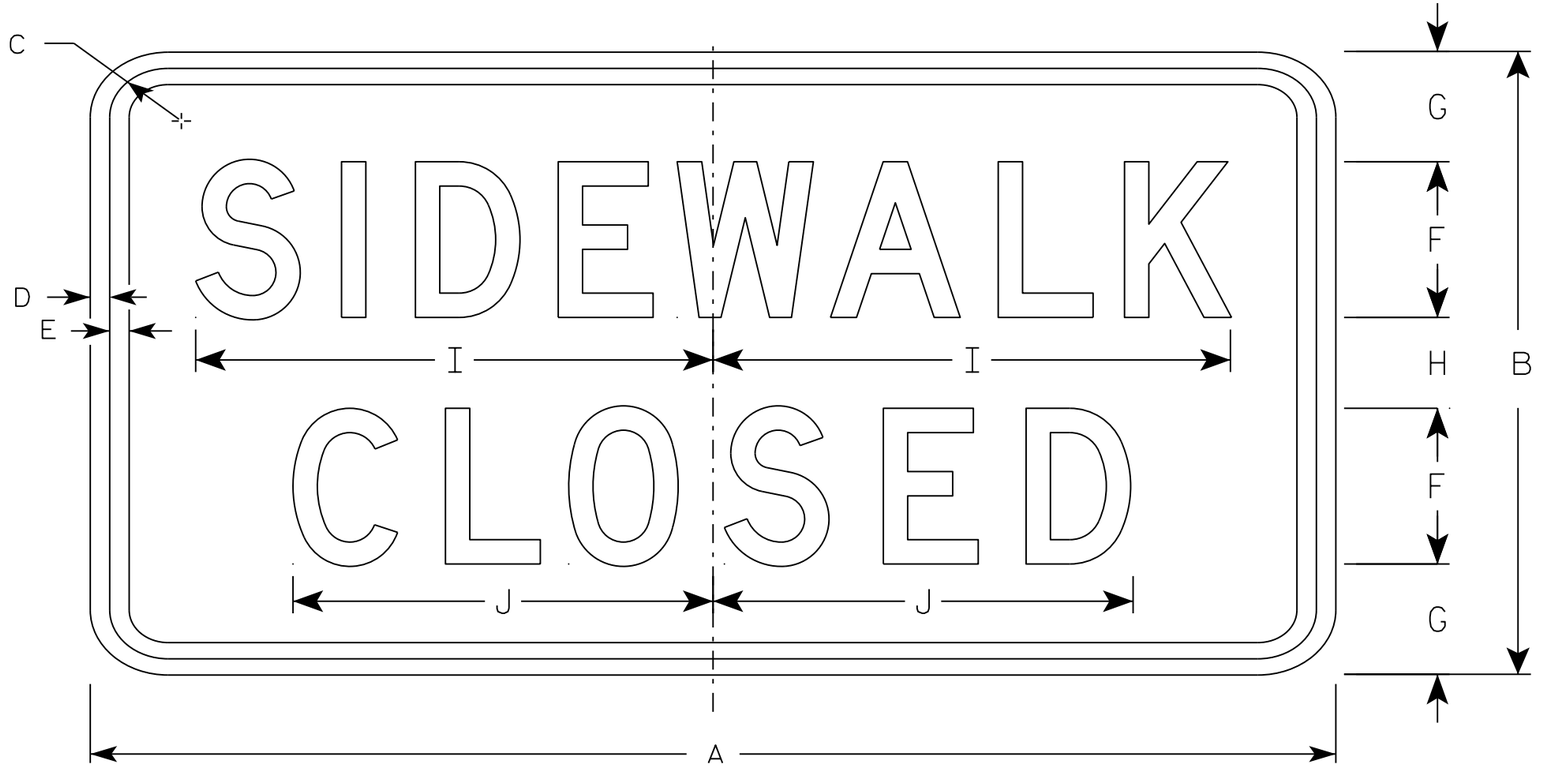
STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2021 PLATE NO. R7-1.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 200 E




R9-9

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | 12 | 1 3/4 | 1/2 | 1/2 | 3 | 2 1/8 | 1 3/4 | 10 | 8 1/8 | | | | | | | | | | | | | | | | | 2.0 |
| 2M | 24 | 12 | 1 3/4 | 1/2 | 1/2 | 3 | 2 1/8 | 1 3/4 | 10 | 8 1/8 | | | | | | | | | | | | | | | | | 2.0 |
| 3 | 30 | 18 | 1 3/4 | 1/2 | 1/2 | 4 | 3 1/2 | 3 | 12 1/2 | 10 1/4 | | | | | | | | | | | | | | | | | 3.75 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

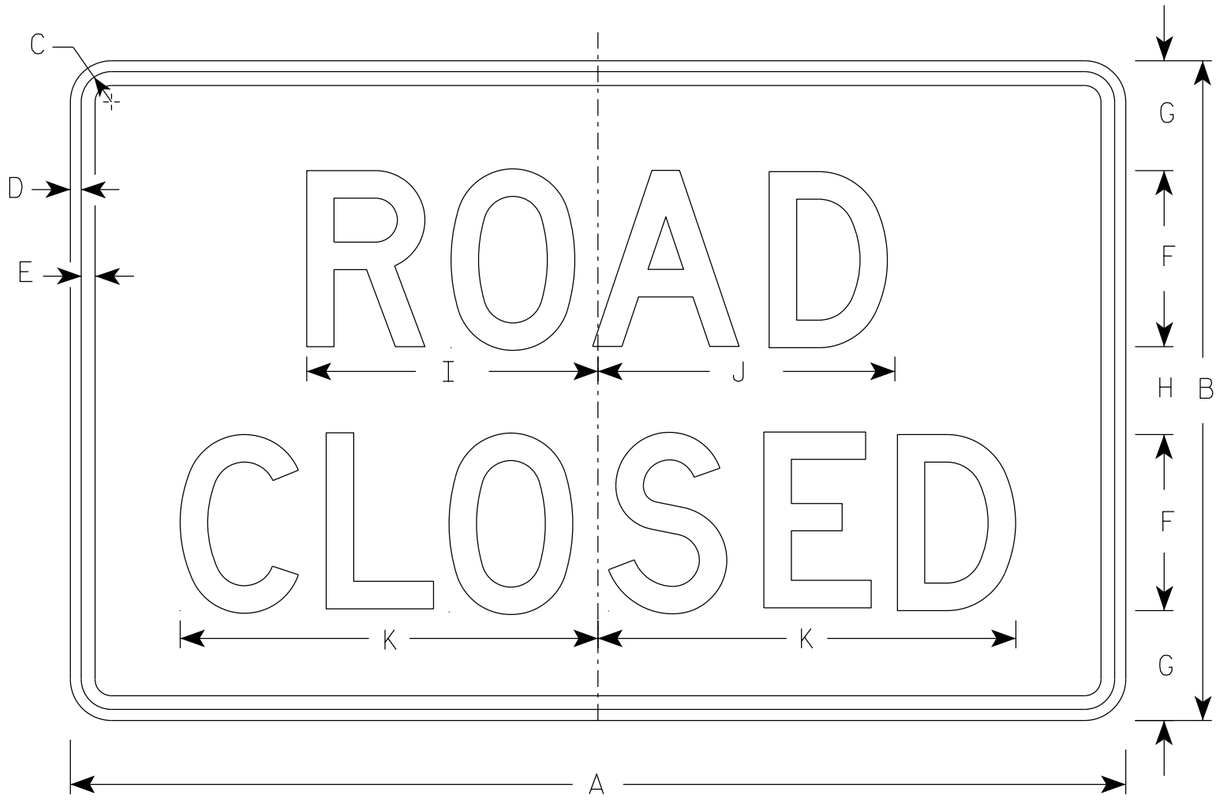
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 201 R9-9.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



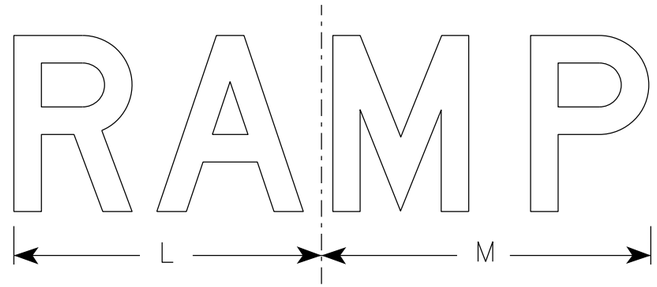
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



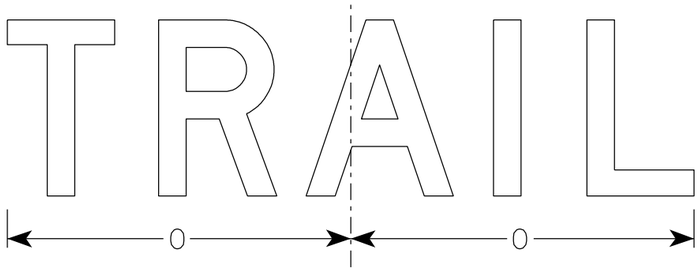

R11-2

NOTES

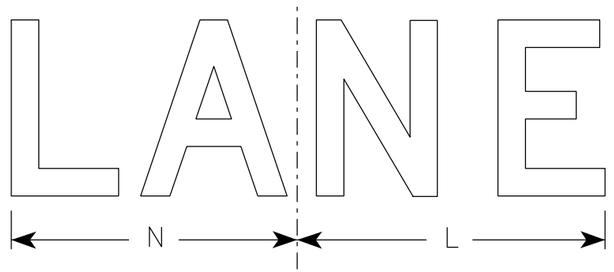
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.




R11-2R




R11-2T




R11-2L

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |
| 2M | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |
| 3 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |
| 4 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |
| 5 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |

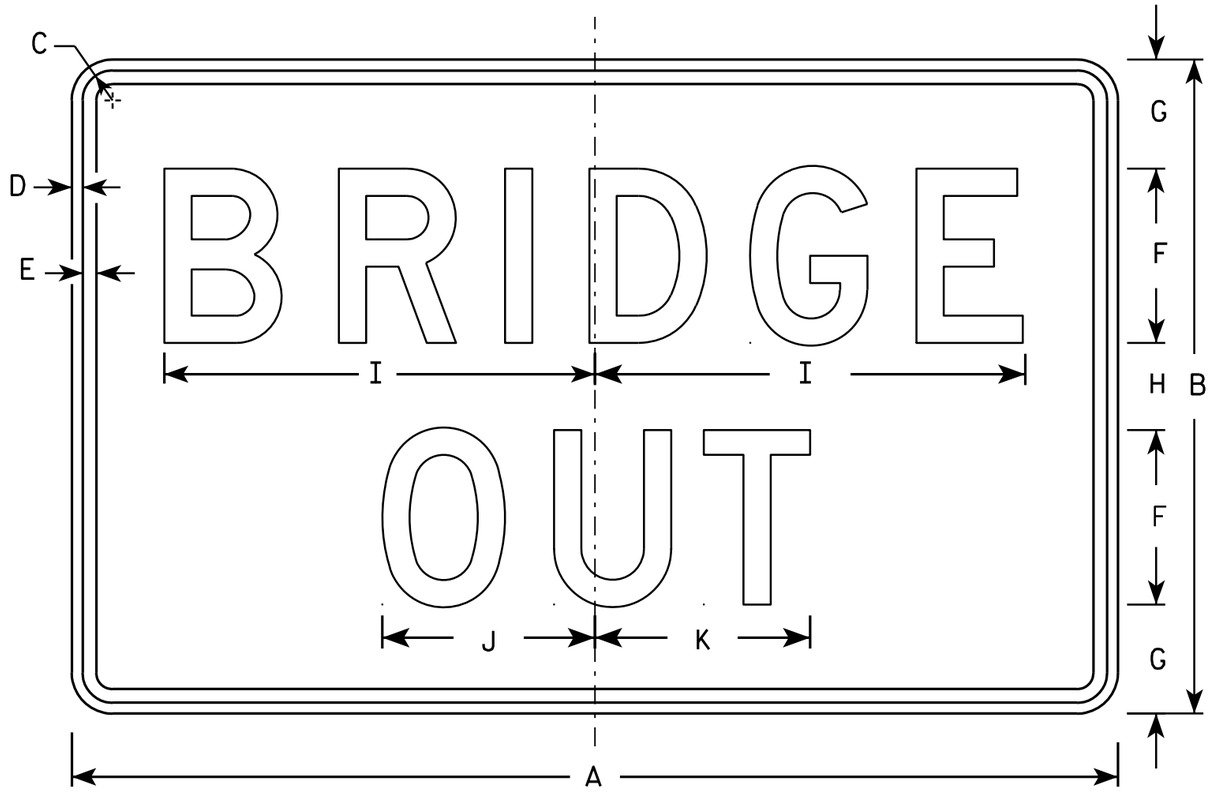
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 202 | E |
|---|---|---|---|---|---|




R11-2B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |
| 2M | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |
| 3 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |
| 4 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |
| 5 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

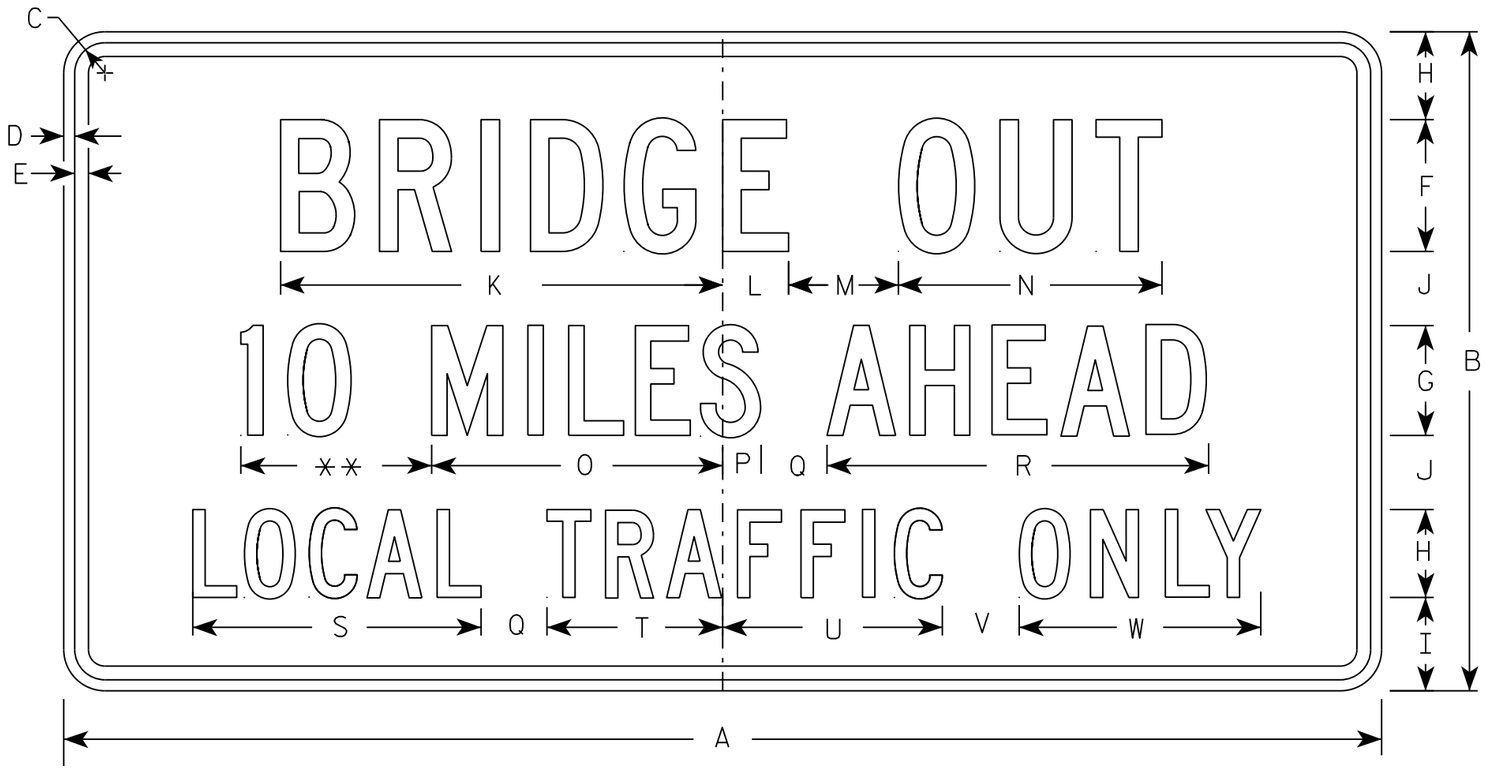
PROJECT NO:

SHEET NO: 203 E



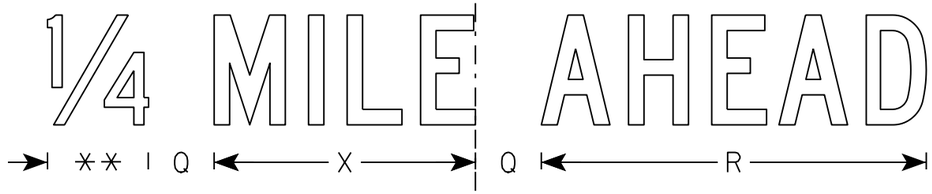

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112B.DGN PLOT DATE : 01-APR-2011 14:23 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42




R11-3B

** See Note 5




NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 18 | 1 3/8 | 1/2 | 5/8 | 4 | 3 | 2 1/2 | 2 | 2 | 13 1/4 | 2 1/4 | 3 | 8 | 8 | 1 1/2 | 2 | 10 3/4 | 8 3/8 | 4 3/4 | 6 1/2 | 2 | 6 3/4 | 7 1/8 | | | 4.5 |
| 2S | 60 | 30 | 1 3/8 | 1/2 | 5/8 | 6 | 5 | 4 | 4 1/4 | 3 3/8 | 20 1/8 | 3 | 5 | 12 | 13 1/4 | 1 3/4 | 3 | 17 3/8 | 13 1/8 | 8 | 10 | 3 1/2 | 11 | 11 7/8 | | | 12.5 |
| 2M | 60 | 30 | 1 3/8 | 1/2 | 5/8 | 6 | 5 | 4 | 4 1/4 | 3 3/8 | 20 1/8 | 3 | 5 | 12 | 13 1/4 | 1 3/4 | 3 | 17 3/8 | 13 1/8 | 8 | 10 | 3 1/2 | 11 | 11 7/8 | | | 12.5 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

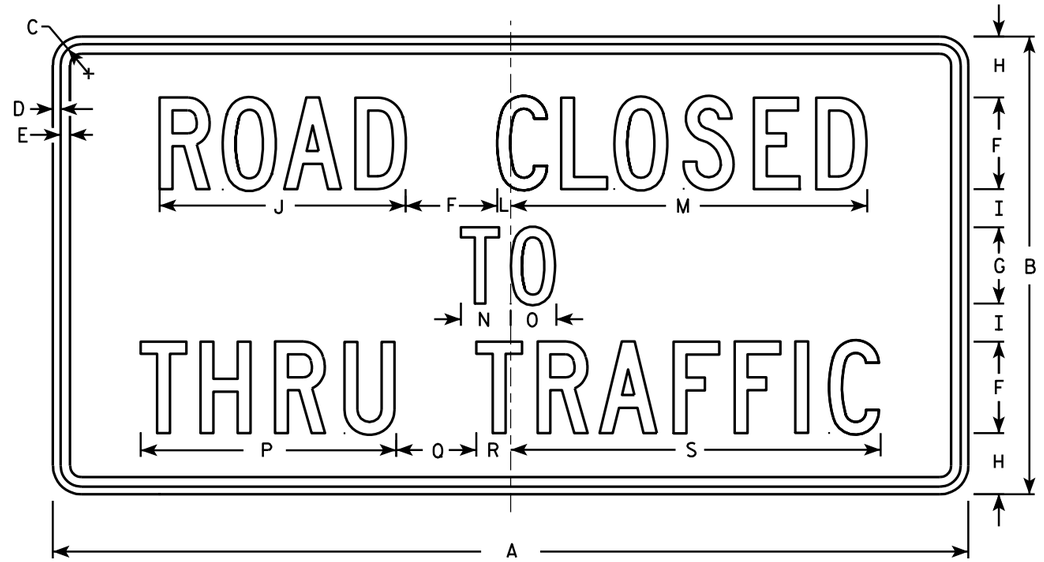
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 204 | E




R11-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 60 | 30 | 1 3/8 | 1/2 | 5/8 | 6 | 5 | 4 | 2 1/2 | 16 1/8 | | 7/8 | 23 3/8 | 3 1/4 | 3 | 16 3/4 | 5 1/4 | 2 1/4 | 24 1/4 | | | | | | | | 12.5 |
| 2M | 60 | 30 | 1 3/8 | 1/2 | 5/8 | 6 | 5 | 4 | 2 1/2 | 16 1/8 | | 7/8 | 23 3/8 | 3 1/4 | 3 | 16 3/4 | 5 1/4 | 2 1/4 | 24 1/4 | | | | | | | | 12.5 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

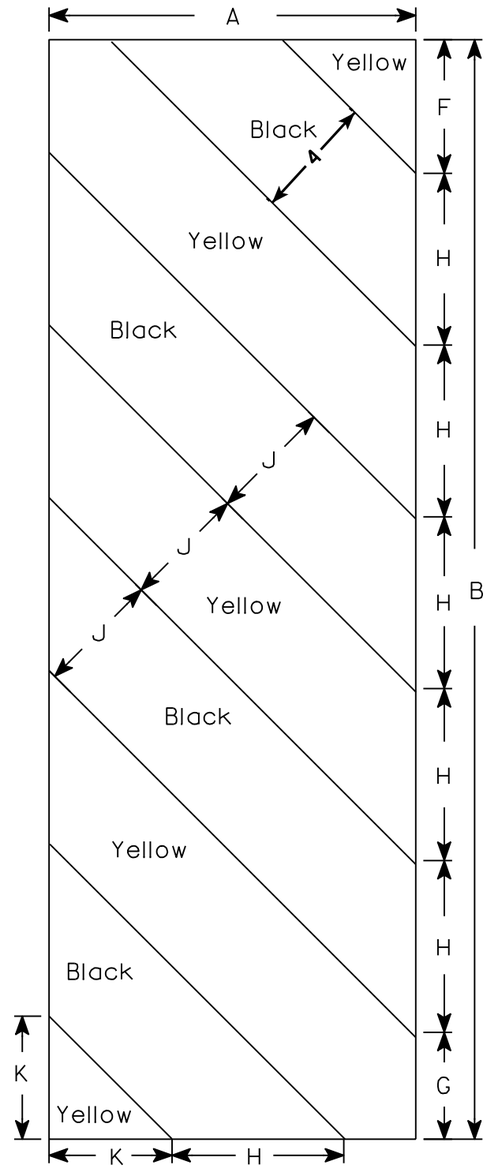
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

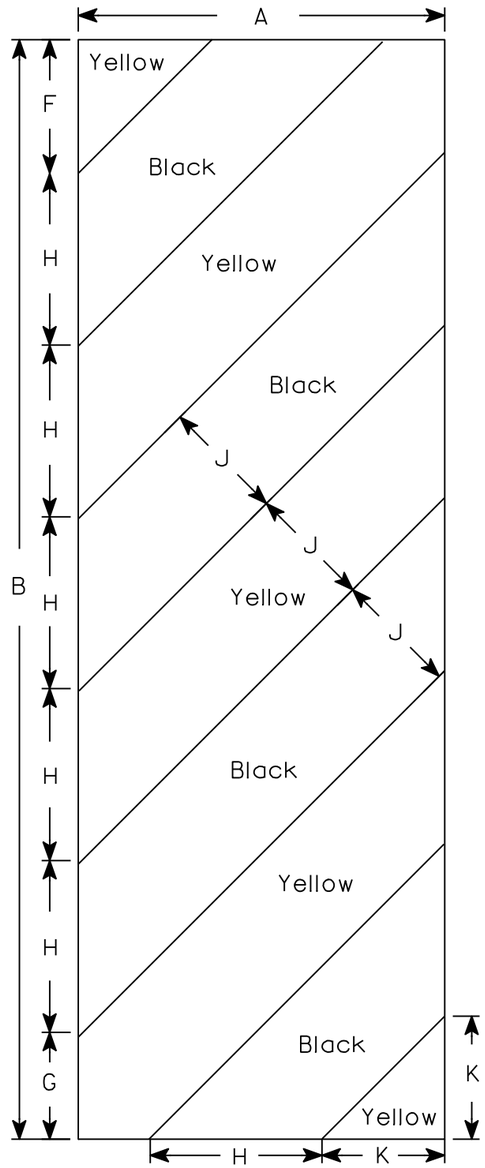
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 205 | E


7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R114.DGN PLOT DATE : 01-APR-2011 14:11 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000 WISDOT/CADDS SHEET 42




W5-52L




W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 2M | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 3 | 18 | 54 | | | | 6 | 5 1/2 | 8 1/2 | 45° | 6 | 6 9/16 | | | | | | | | | | | | | | | | 6.75 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN

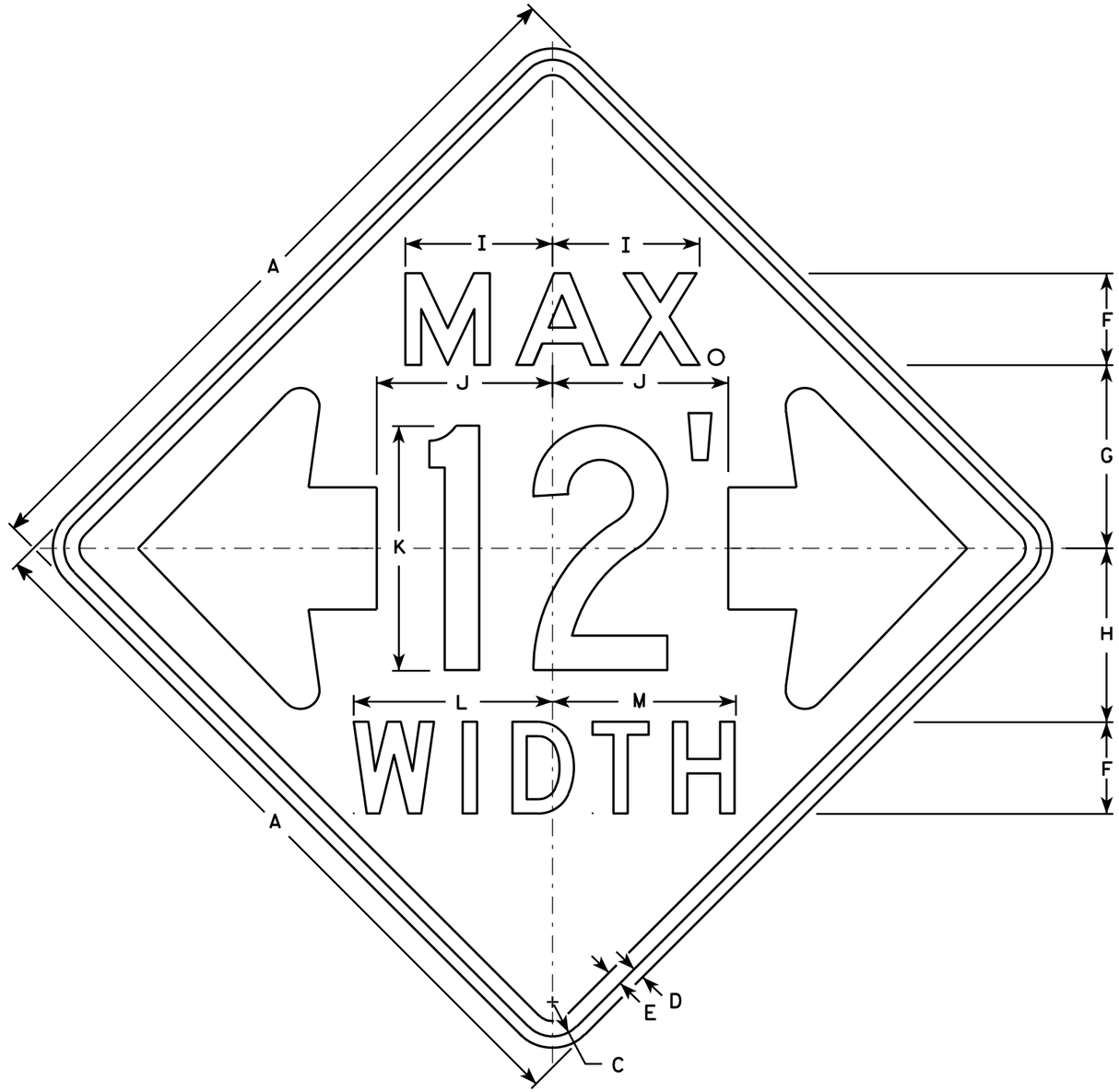
W5-52L & W5-52R

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

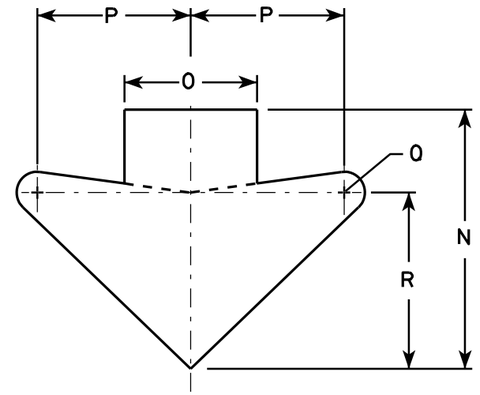
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 206 | E




W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.




ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 6 | 12 | 11 3/8 | 9 5/8 | 11 1/2 | 16 | 13 | 12 | 15 5/8 | 8 | 9 1/4 | 1 1/4 | 10 5/8 | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 6 | 12 | 11 3/8 | 9 5/8 | 11 1/2 | 16 | 13 | 12 | 15 5/8 | 8 | 9 1/4 | 1 1/4 | 10 5/8 | | | | | | | | | 16.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

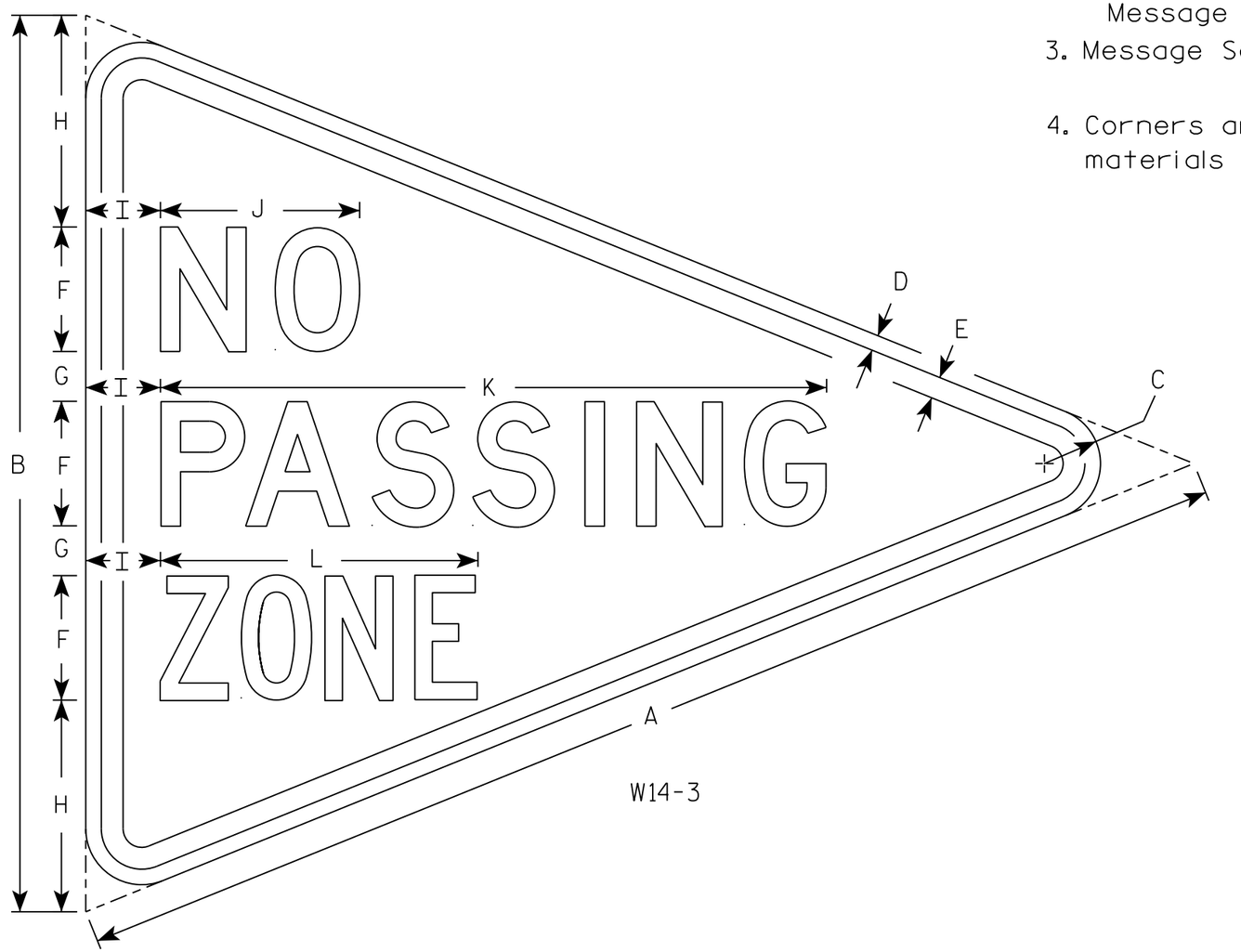
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 207 | E



FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - Lines 1 and 2 are Series D.
   Line 3 is series C.
4. Corners and borders shall be rounded on all base materials for this sign.




W14-3

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 36 | 2 1/4 | 5/8 | 7/8 | 5 | 2 | 8 1/2 | 3 | 8 | 26 3/4 | 12 3/4 | | | | | | | | | | | | | | | 5.56 |
| 2M | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

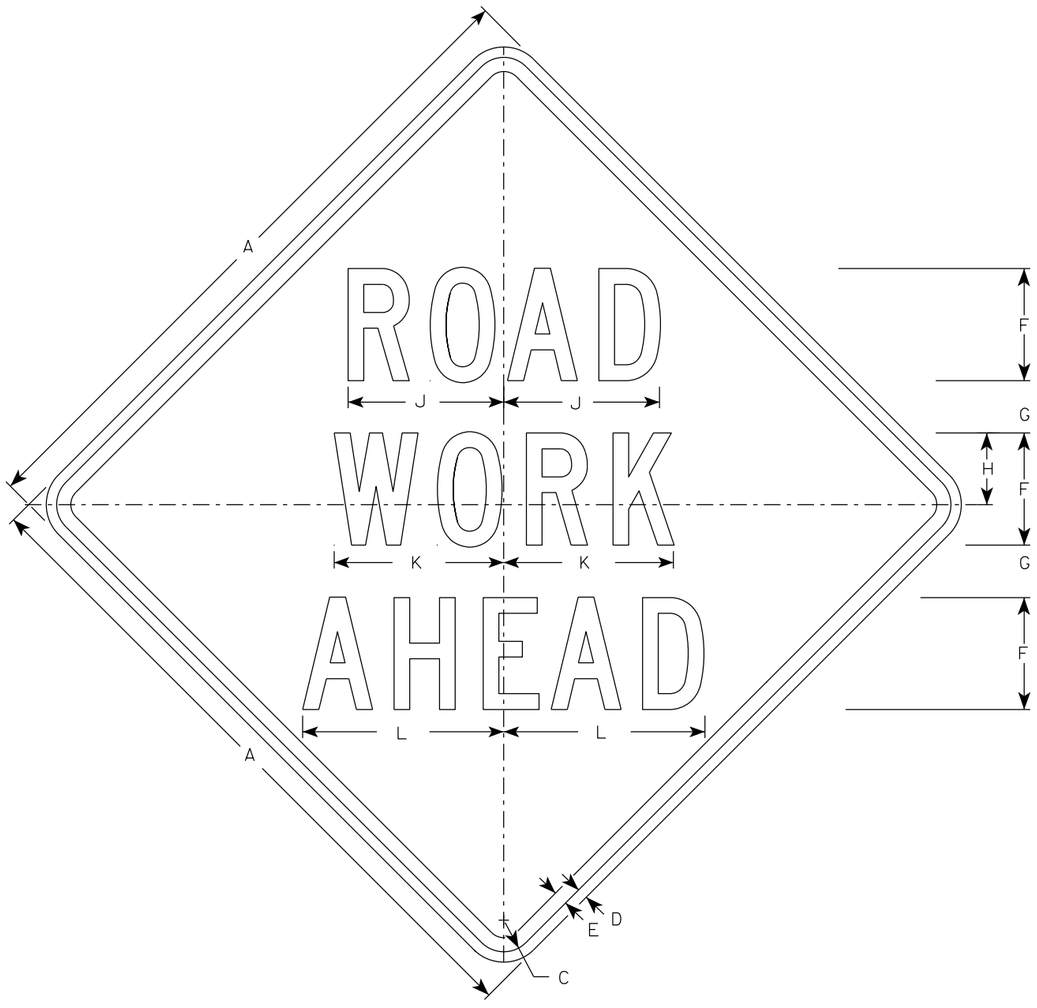
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W14-3.10

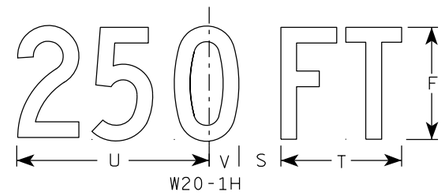
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 208 | E

NOTES

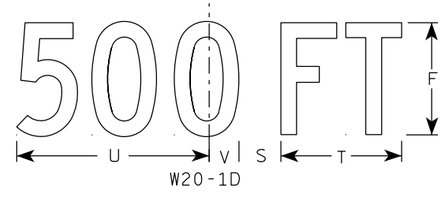
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.




W20-1A



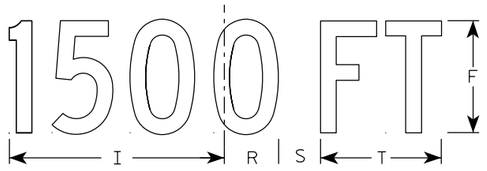

W20-1H



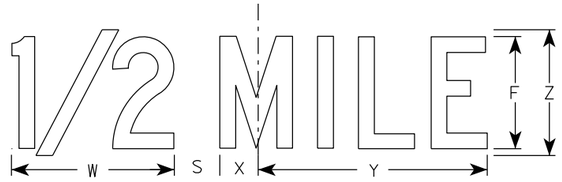

W20-1D



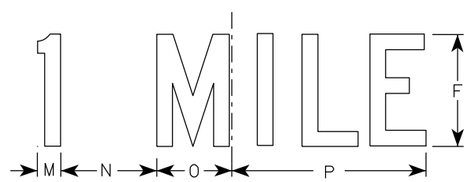

W20-1C



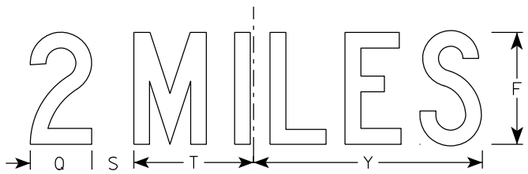

W20-1B




W20-1G




W20-1F




W20-1E

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 5 | 2 5/8 | 3 1/4 | 10 1/8 | 7 | 7 5/8 | 8 7/8 | 1 1/8 | 4 1/2 | 3 1/2 | 9 | 3 1/4 | 2 1/2 | 2 1/4 | 5 5/8 | 9 | 1 3/8 | 8 | 1 3/4 | 10 3/4 | 6 | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11

PROJECT NO:

SHEET NO: E

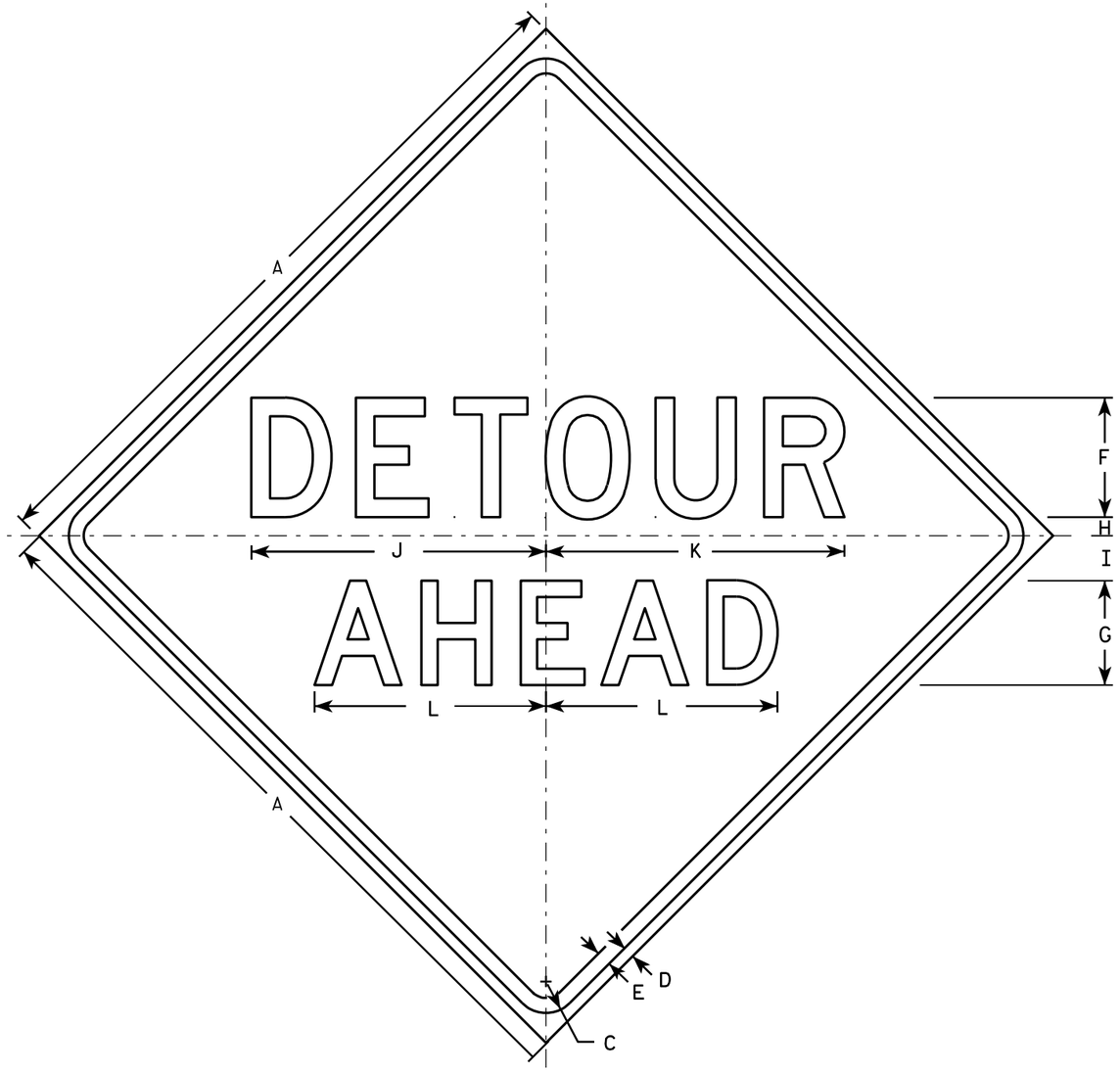


FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 25-MARCH-2020 PLOT BY : dotc4c

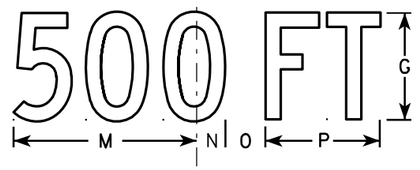
WISDOT/CADDS SHEET 42

7

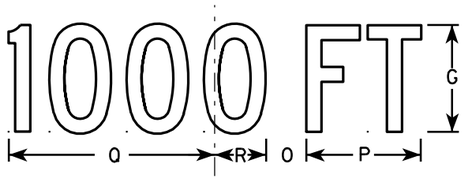
7



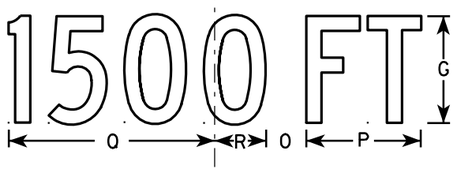

W20-2A



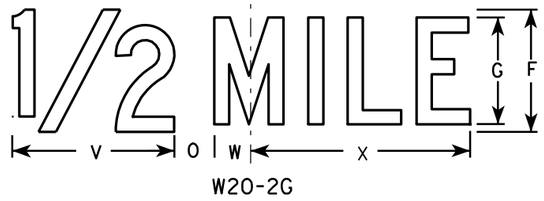

W20-2D




W20-2C




W20-2B




W20-2G




W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | O | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 6 | 5 | 1 | 2 1/4 | 14 3/4 | 15 | 11 5/8 | 9 | 1 3/8 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 1/8 | 4 1/2 | 3 1/2 | 8 | 1 3/4 | 10 3/4 | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

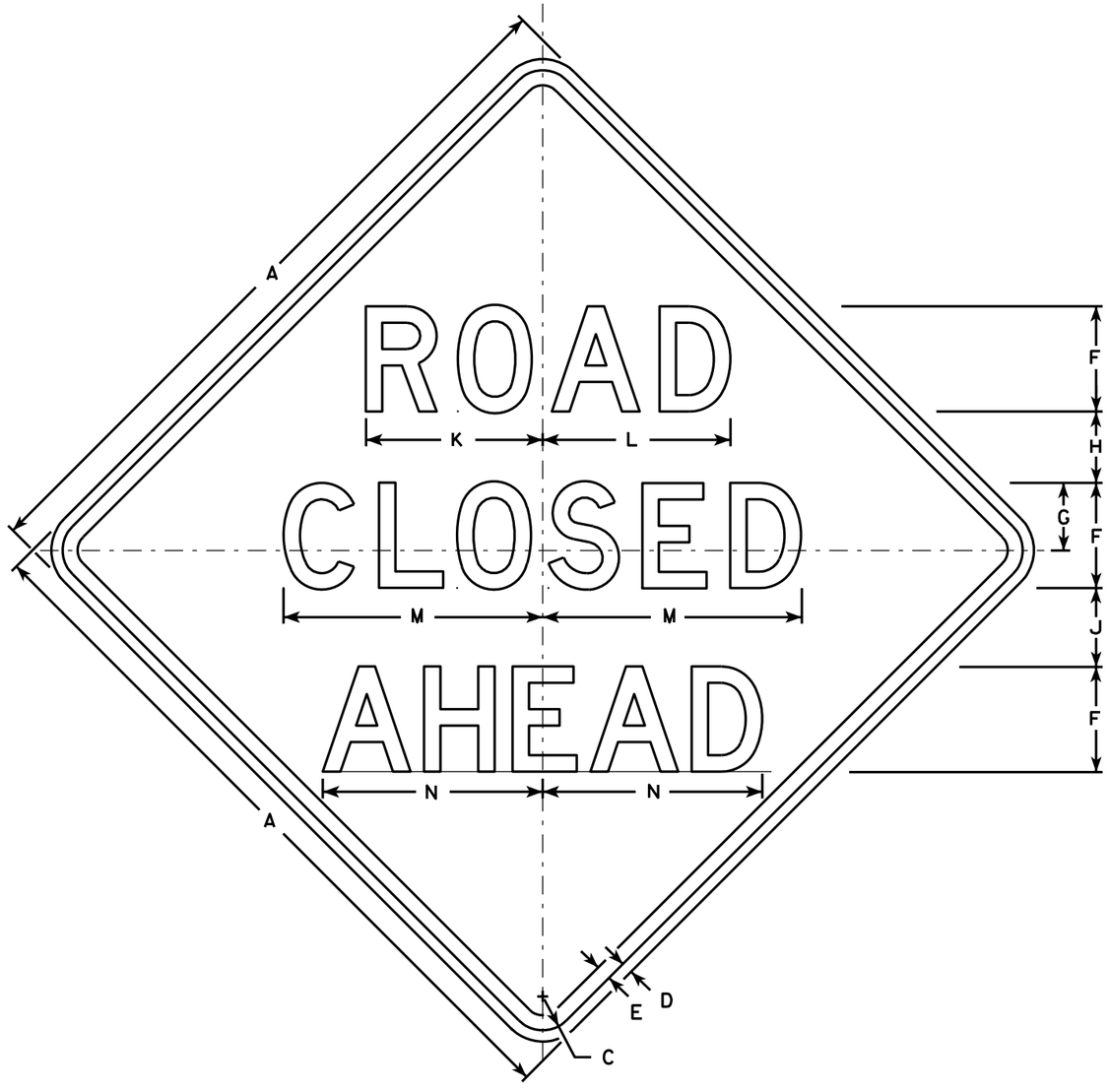
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

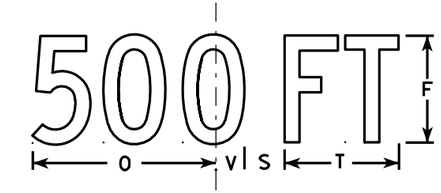
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 210 | E


7

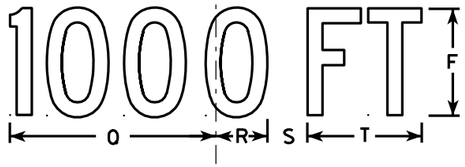
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



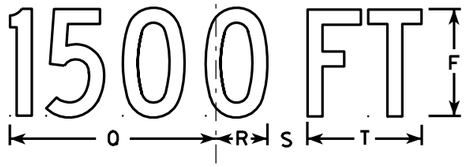

W20-3A



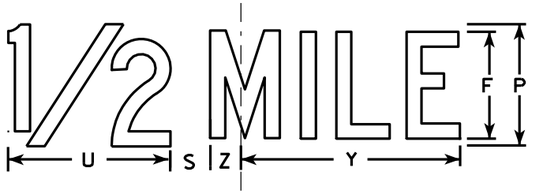

W20-3D



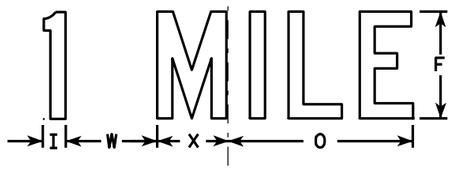

W20-3C




W20-3B




W20-3G




W20-3F

**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

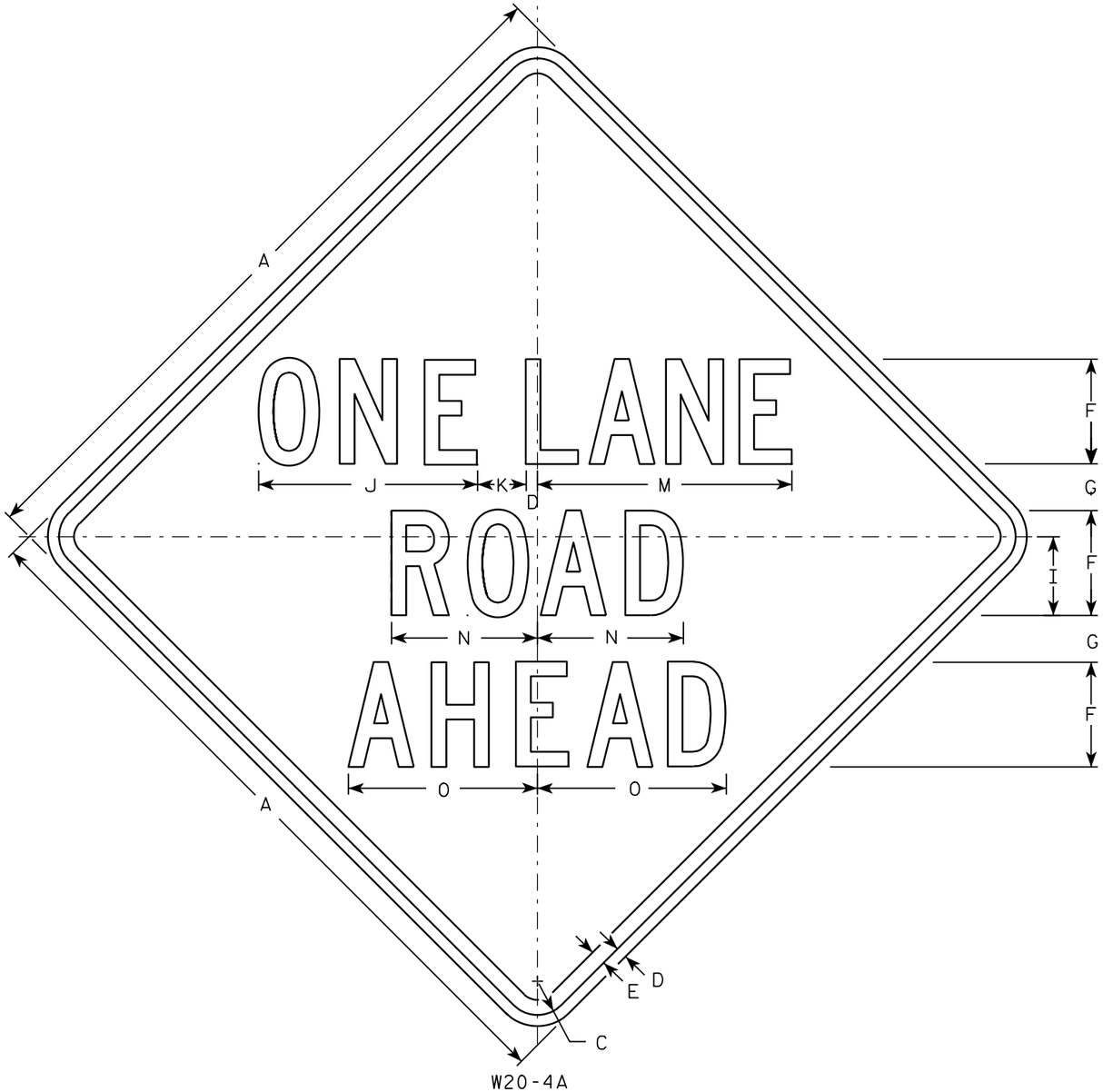
| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 5 | 3 3/8 | 3 1/2 | 1 1/8 | 4 | 8 3/8 | 8 7/8 | 12 1/2 | 11 | 9 | 6 | 10 1/8 | 2 1/2 | 1 7/8 | 5 5/8 | 8 | 1 3/8 | 4 1/2 | 3 1/2 | 10 3/4 | 1 3/4 | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 1 1/2 | 5 1/4 | 11 3/4 | 12 1/2 | 17 1/4 | 14 5/8 | 12 | 8 | 13 1/2 | 3 3/8 | 2 5/8 | 7 1/2 | 10 5/8 | 1 7/8 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |

STANDARD SIGN
W20-3A, B, C, D, F & G

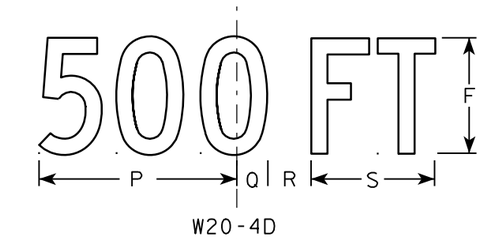
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

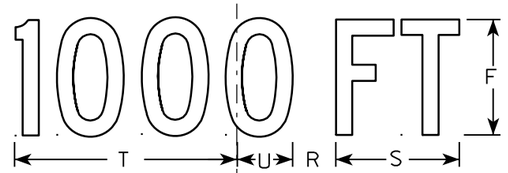
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 211 | E



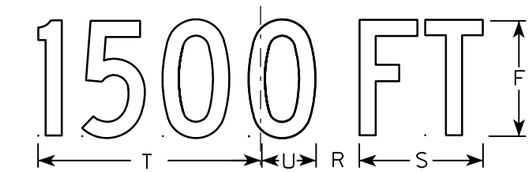

W20-4A



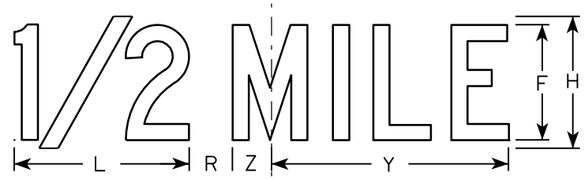

W20-4D



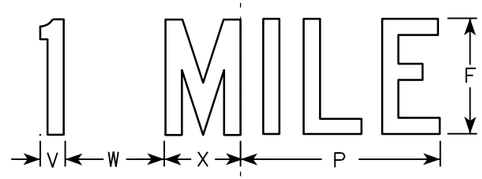

W20-4C




W20-4B




W20-4G




W20-4F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 5 | 2 3/8 | 6 | 3 3/4 | 10 3/8 | 2 3/8 | 8 | 13 1/2 | 7 | 8 7/8 | 9 | 1 3/8 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 1/8 | 4 1/2 | 3 1/2 | 10 3/4 | 1 3/4 | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |

STANDARD SIGN
W20-4A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

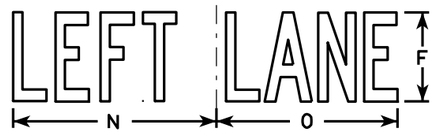
DATE 3/18/11 PLATE NO. W20-4.9

PROJECT NO:

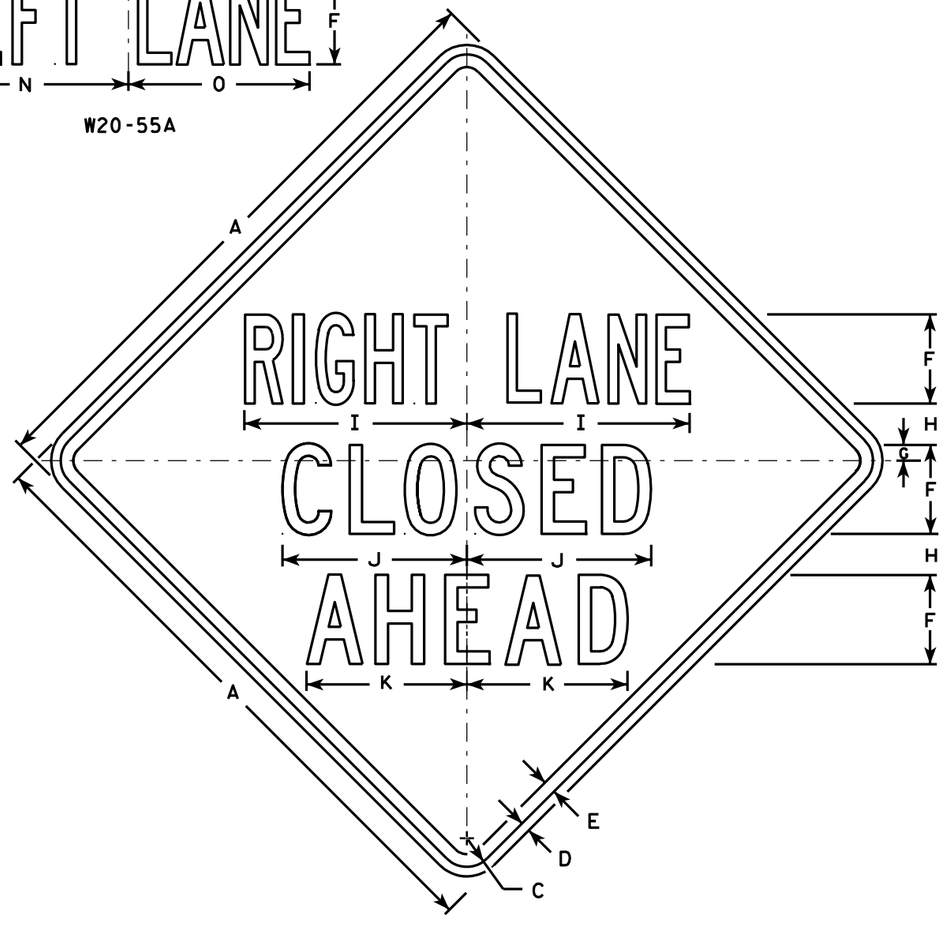
SHEET NO: 212 E



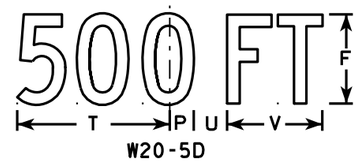

W20-56A



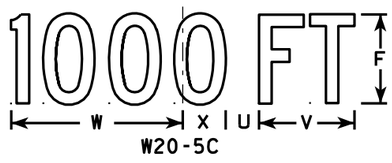

W20-55A



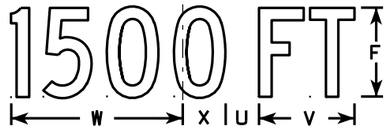

W20-5A




W20-5D




W20-5C




W20-5B




W20-5G




W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 6 | 1 5/8 | 5/8 | 3/4 | 5 | 1/8 | 2 1/2 | 13 1/8 | 10 3/4 | 9 1/2 | 14 1/4 | 13 5/8 | 12 | 12 | 1 3/8 | 1 1/8 | 4 1/2 | 3 1/2 | 9 | 1 1/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 3/4 | 8 | 9.0 |
| 2S | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 2M | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 3 | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 4 | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 5 | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

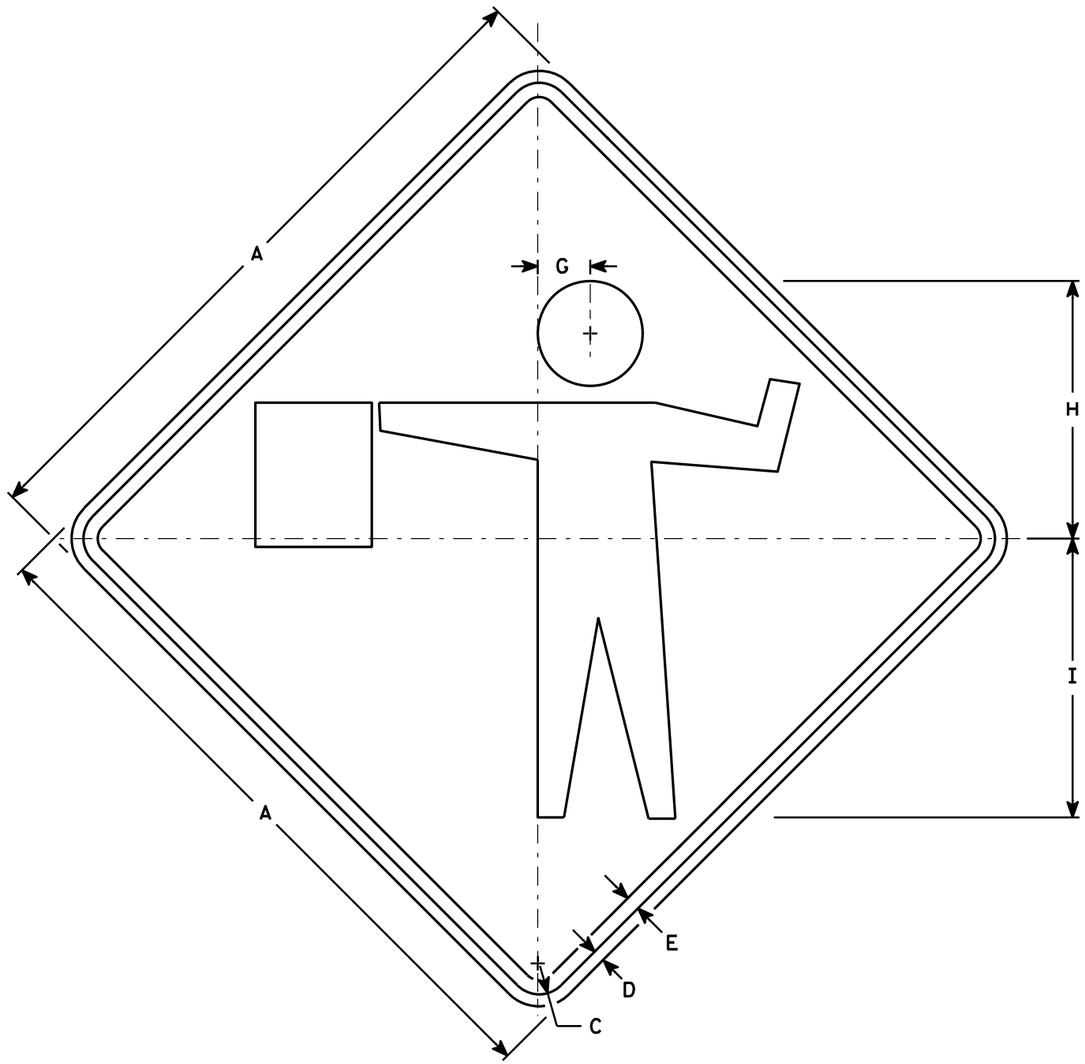
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 213 | E


7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42




W20-7A

## NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | | 2 3/4 | 13 1/2 | 14 5/8 | | | | | | | | | | | | | | | | | | 9.00 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | | 3 3/4 | 18 | 19 1/2 | | | | | | | | | | | | | | | | | | 16.00 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | | 3 3/4 | 18 | 19 1/2 | | | | | | | | | | | | | | | | | | 16.00 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | | 3 3/4 | 18 | 19 1/2 | | | | | | | | | | | | | | | | | | 16.00 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | | 3 3/4 | 18 | 19 1/2 | | | | | | | | | | | | | | | | | | 16.00 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 3 3/4 | 18 | 19 1/2 | | | | | | | | | | | | | | | | | | 16.00 |

STANDARD SIGN
W20-7A

WISCONSIN DEPT OF TRANSPORTATION

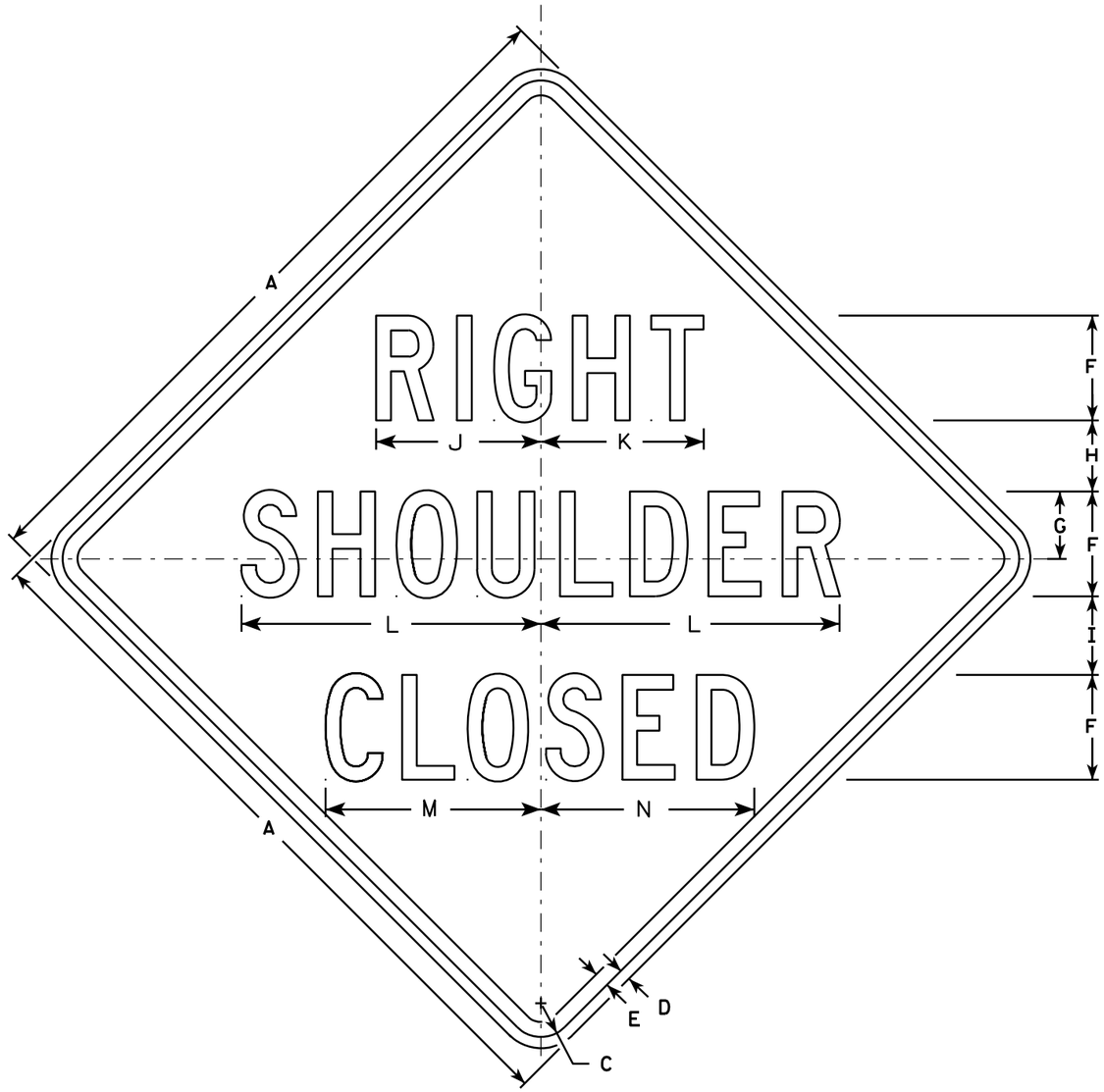
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-7A.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 214 | E


7

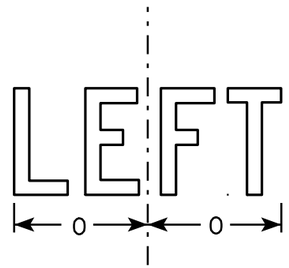
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W207A.DGN PLOT DATE : 18-MAR-2011 13:14 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 7.945391:1.000000 WISDOT/CADDS SHEET 42




W21-5A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.




W21-5AL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 5 | 3 3/8 | 3 1/2 | 4 | 7 7/8 | 7 3/4 | 14 1/4 | 10 1/4 | 10 1/8 | 6 1/4 | | | | | | | | | | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 5 1/4 | 11 | 10 7/8 | 20 | 14 3/8 | 14 1/4 | 8 3/4 | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 5 1/4 | 11 | 10 7/8 | 20 | 14 3/8 | 14 1/4 | 8 3/4 | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 5 1/4 | 11 | 10 7/8 | 20 | 14 3/8 | 14 1/4 | 8 3/4 | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 5 1/4 | 11 | 10 7/8 | 20 | 14 3/8 | 14 1/4 | 8 3/4 | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 1/2 | 4 3/4 | 5 1/4 | 11 | 10 7/8 | 20 | 14 3/8 | 14 1/4 | 8 3/4 | | | | | | | | | | | | 16.0 |

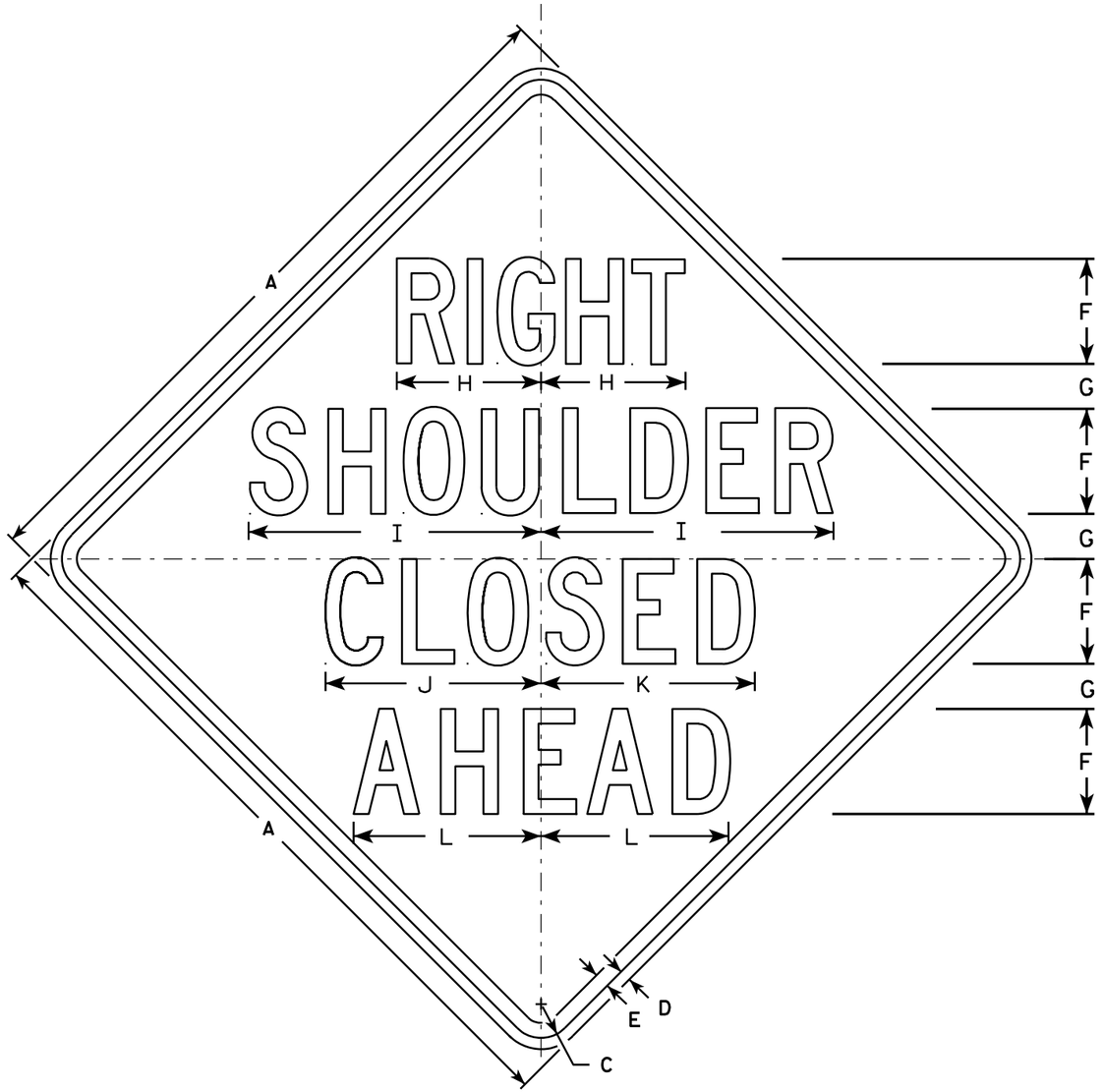
STANDARD SIGN
W21-5A

WISCONSIN DEPT OF TRANSPORTATION

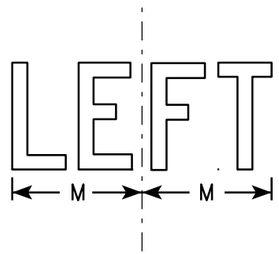
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5A.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 215 | E




W21-5B




W21-5BL

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 5 | 2 1/4 | 7 3/8 | 14 1/4 | 10 1/4 | 10 1/8 | 8 7/8 | 6 1/4 | | | | | | | | | | | | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 | 9 5/8 | 19 1/2 | 14 3/8 | 14 1/4 | 12 1/2 | 8 1/2 | | | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 | 9 5/8 | 19 1/2 | 14 3/8 | 14 1/4 | 12 1/2 | 8 1/2 | | | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 | 9 5/8 | 19 1/2 | 14 3/8 | 14 1/4 | 12 1/2 | 8 1/2 | | | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 | 9 5/8 | 19 1/2 | 14 3/8 | 14 1/4 | 12 1/2 | 8 1/2 | | | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 | 9 5/8 | 19 1/2 | 14 3/8 | 14 1/4 | 12 1/2 | 8 1/2 | | | | | | | | | | | | | | 16.0 |

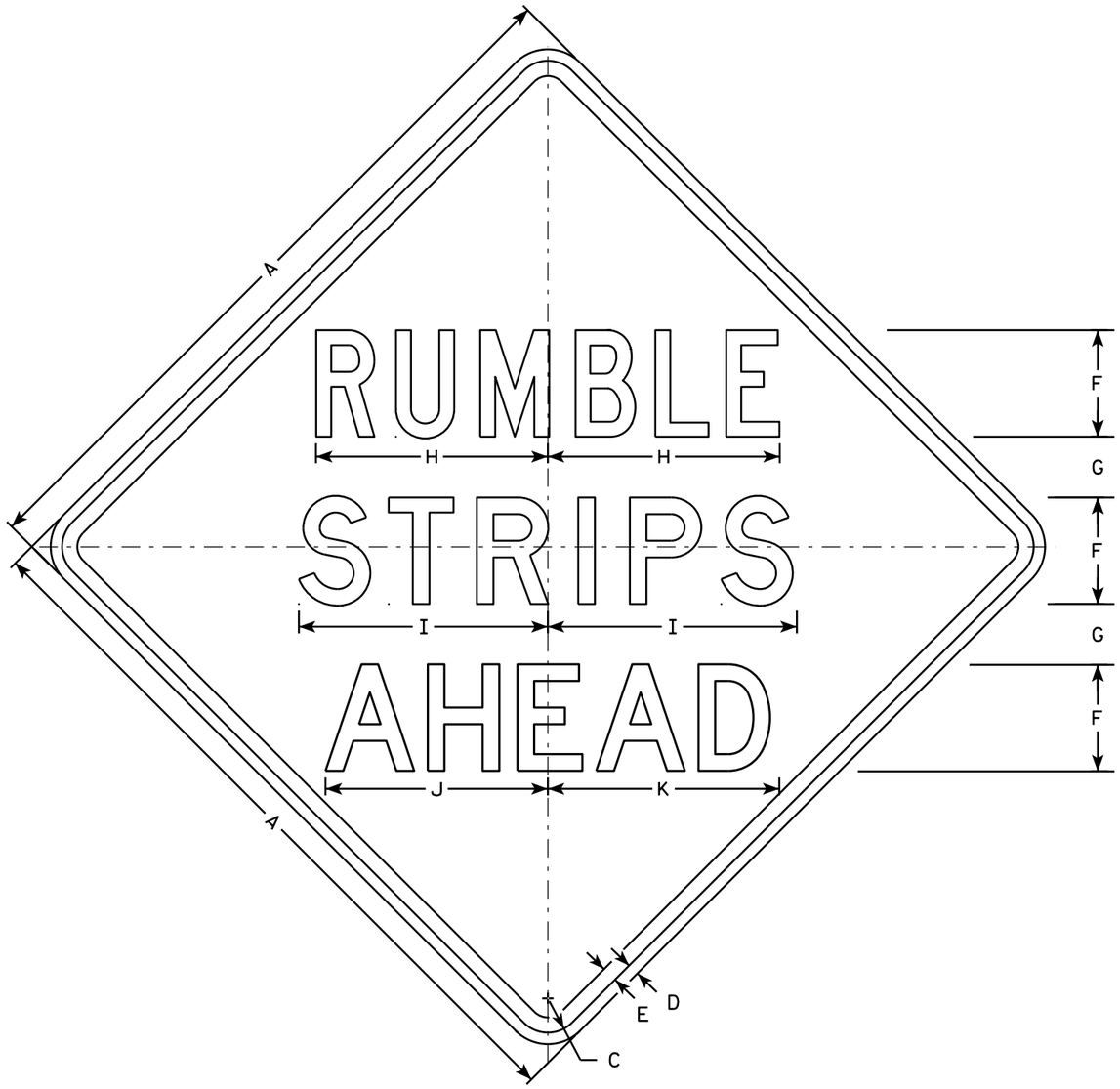
STANDARD SIGN
W21-5B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5B.3

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 216 | E |
|---|---|---|---|---|---|




W21-65

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C
   Lines 2 and 3 are Series D

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 5 | 3 1/4 | 10 7/8 | 11 5/8 | 11 | 11 5/8 | | | | | | | | | | | | | | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 | 15 1/4 | 16 3/8 | 14 5/8 | 15 1/4 | | | | | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 | 15 1/4 | 16 3/8 | 14 5/8 | 15 1/4 | | | | | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 | 15 1/4 | 16 3/8 | 14 5/8 | 15 1/4 | | | | | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 | 15 1/4 | 16 3/8 | 14 5/8 | 15 1/4 | | | | | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 4 | 15 1/4 | 16 3/8 | 14 5/8 | 15 1/4 | | | | | | | | | | | | | | | | 16.0 |

STANDARD SIGN

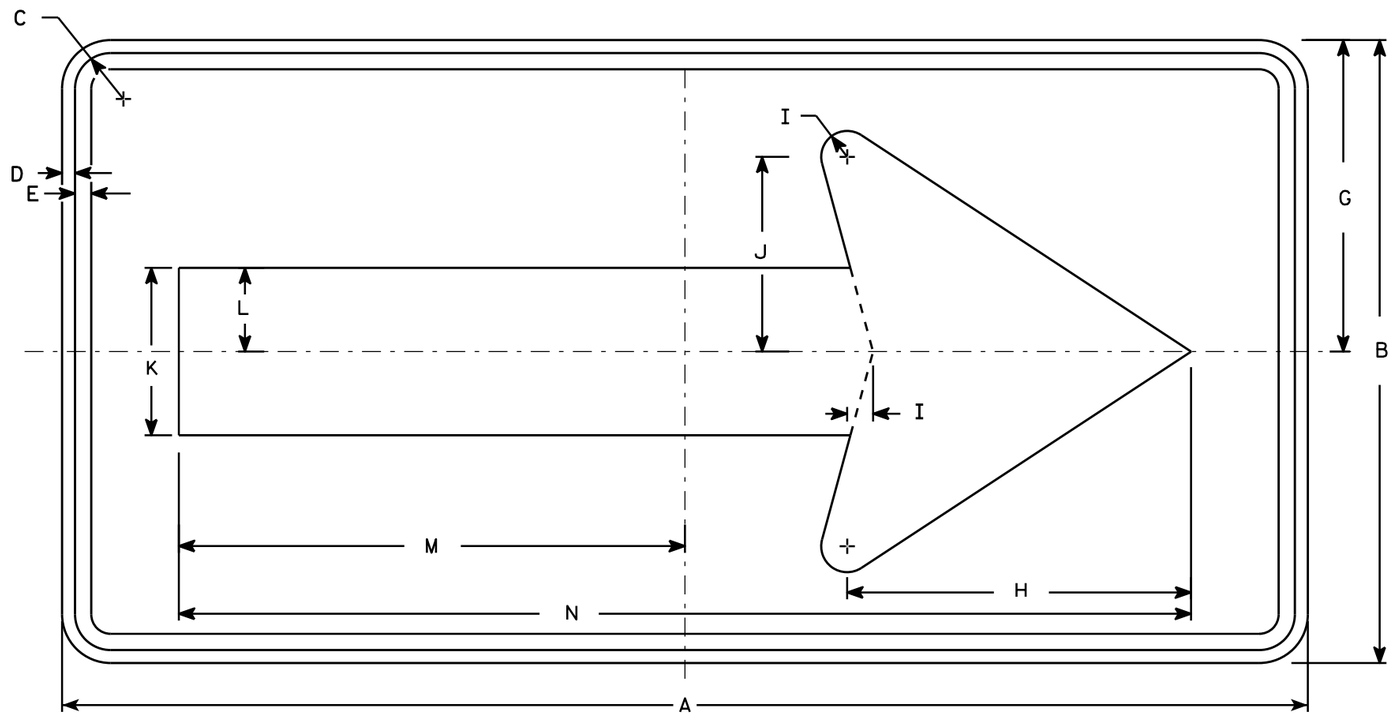
W21-65

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/28/14 PLATE 217 W21-65.1

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|




W01-6

## NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 24 | 1 3/8 | 1/2 | 5/8 | | 12 | 13 1/4 | 1 | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39 | | | | | | | | | | | | | 8.0 |
| 2M | 48 | 24 | 1 3/8 | 1/2 | 5/8 | | 12 | 13 1/4 | 1 | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39 | | | | | | | | | | | | | 8.0 |
| 3 | 60 | 30 | 1 3/8 | 1/2 | 5/8 | | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8 | 4 | 24 3/8 | 48 3/4 | | | | | | | | | | | | | 12.5 |
| 4 | 60 | 30 | 1 3/8 | 1/2 | 5/8 | | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8 | 4 | 24 3/8 | 48 3/4 | | | | | | | | | | | | | 12.5 |
| 5 | 60 | 30 | 1 3/8 | 1/2 | 5/8 | | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8 | 4 | 24 3/8 | 48 3/4 | | | | | | | | | | | | | 12.5 |

# STANDARD SIGN
# W01-6

WISCONSIN DEPT OF TRANSPORTATION

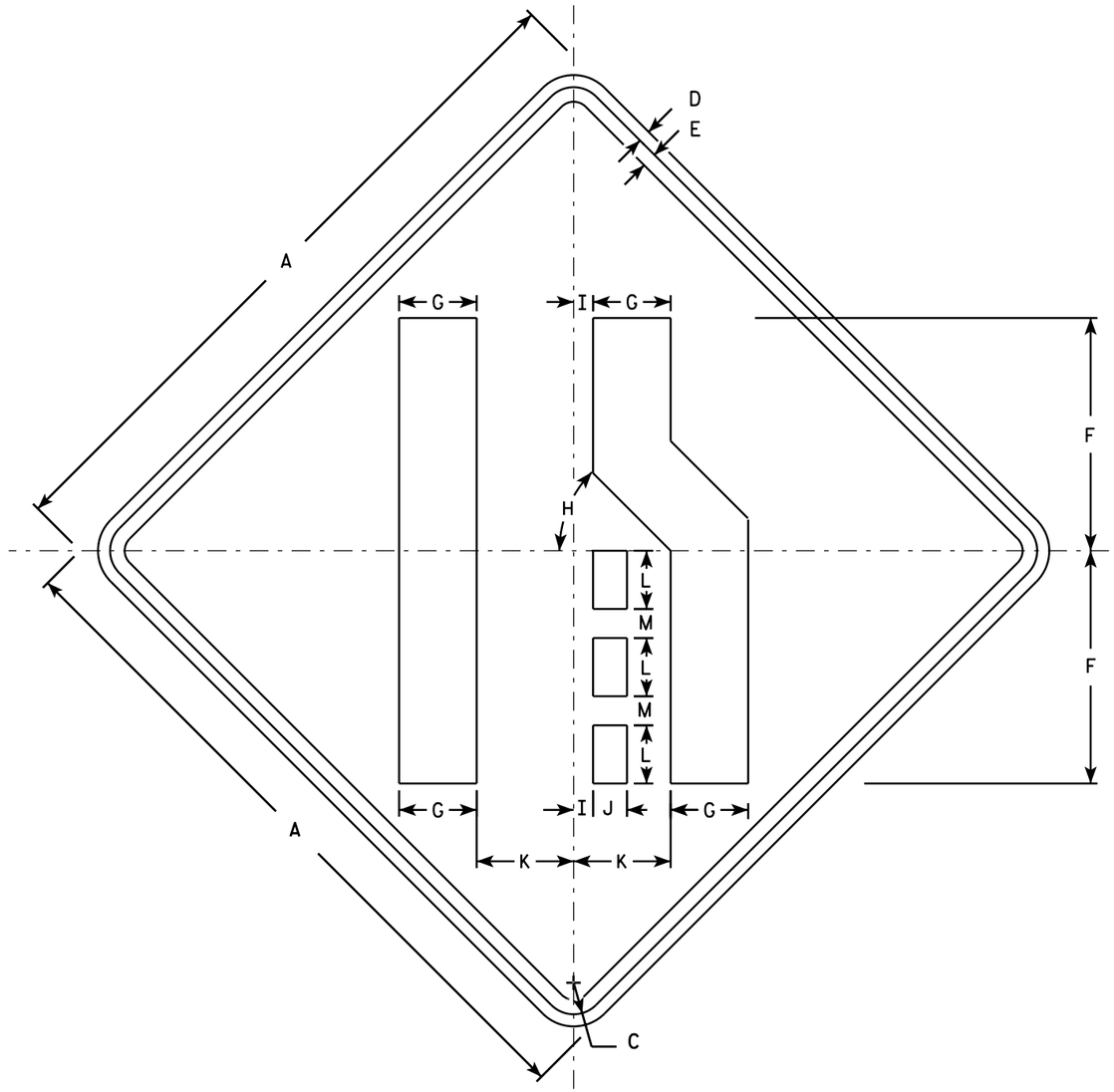
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-6.1



PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42




W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 12 | 4 | 45° | 1 | 1 3/4 | 5 | 3 | 1 1/2 | | | | | | | | | | | | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |

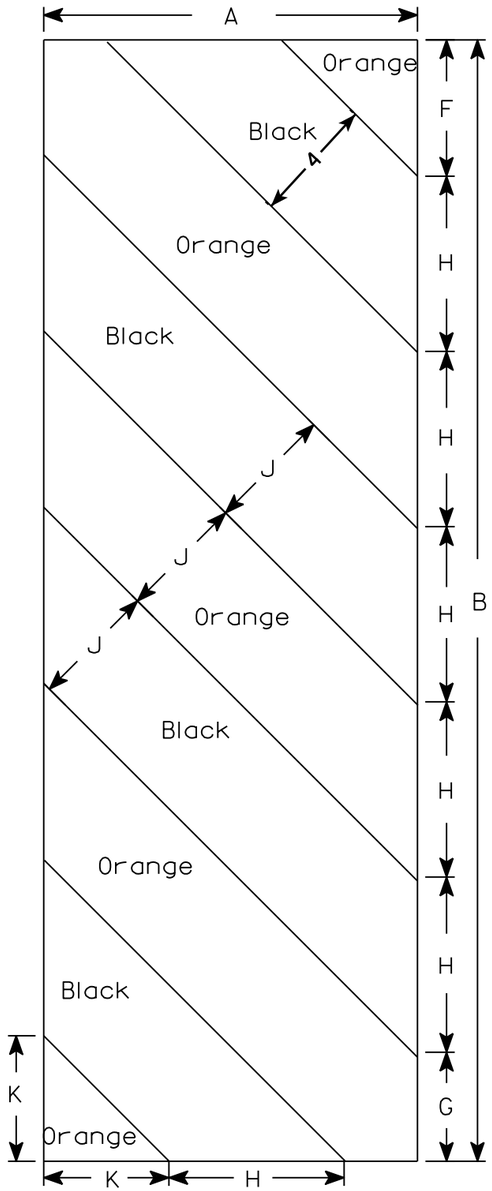
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

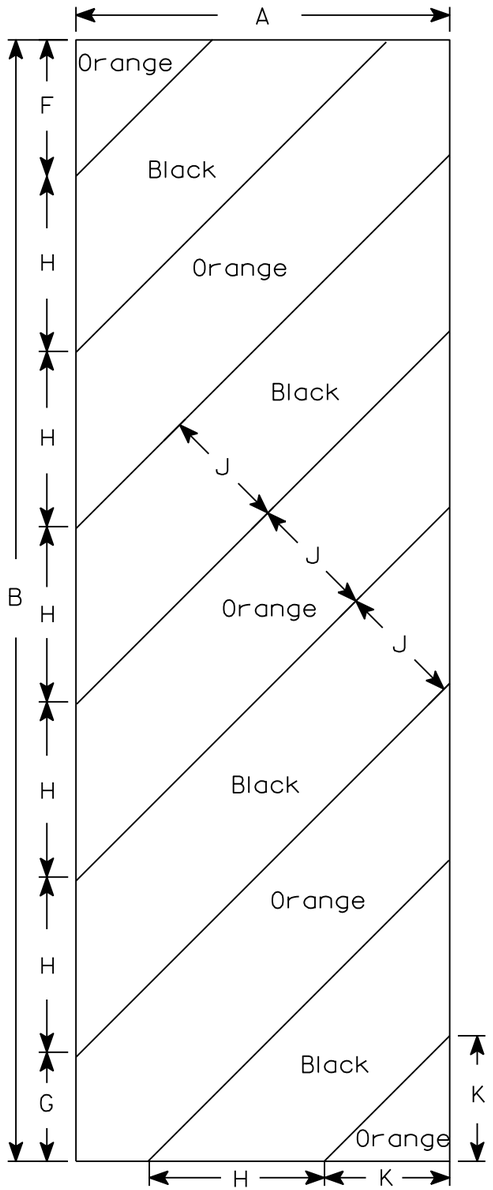
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 219 W04-2.1

PROJECT NO: | SHEET NO: E




W05-52L




W05-52R

## NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 2M | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 3 | 18 | 54 | | | | 6 | 5 1/2 | 8 1/2 | 45° | 6 | 6 9/16 | | | | | | | | | | | | | | | | 6.75 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN

W05-52L & W05-52R

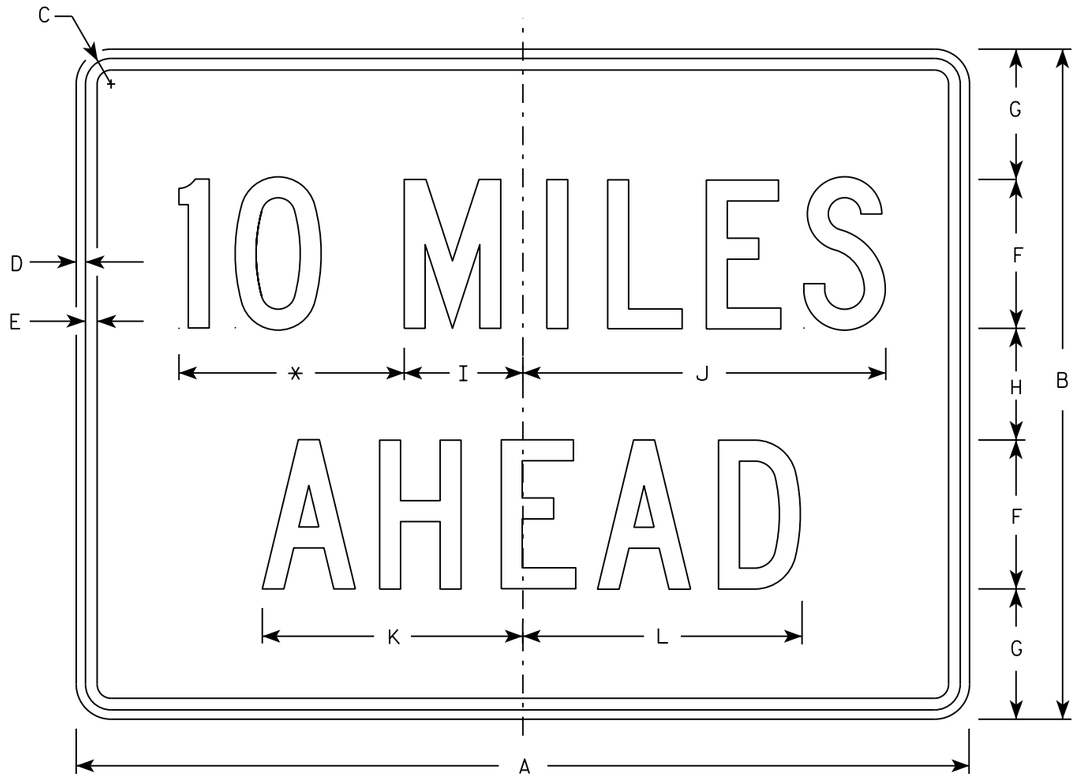
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

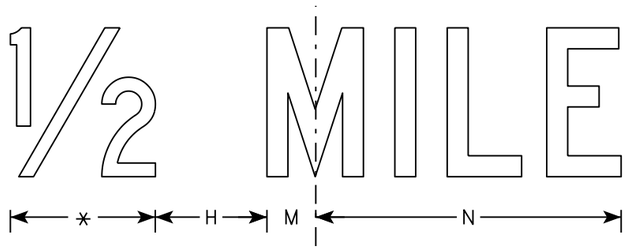
DATE 11/20/13 PLATE No. W05-52.1



| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|




W057-52




NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.

* See note 5

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 24 | 1 1/8 | 3/8 | 1/2 | 6 | 4 1/2 | 3 | 4 3/4 | 14 5/8 | 10 5/8 | 11 3/8 | 2 | 12 | | | | | | | | | | | | | 6.0 |
| 2S | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 2M | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 3 | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 4 | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 5 | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W057-52.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 221 | E |
|---|---|---|---|---|---|

✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

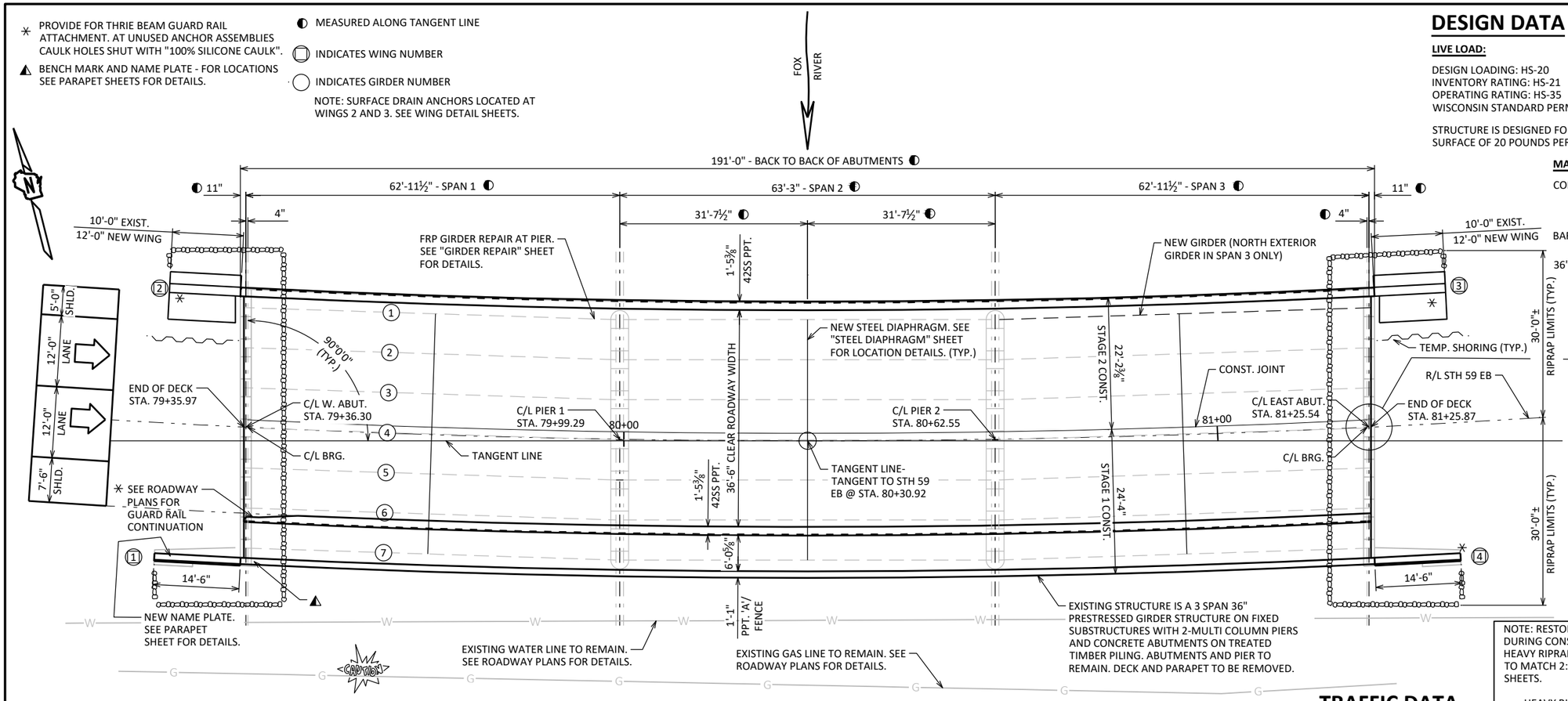
▲ BENCH MARK AND NAME PLATE - FOR LOCATIONS SEE PARAPET SHEETS FOR DETAILS.

◐ MEASURED ALONG TANGENT LINE

⬭ INDICATES WING NUMBER

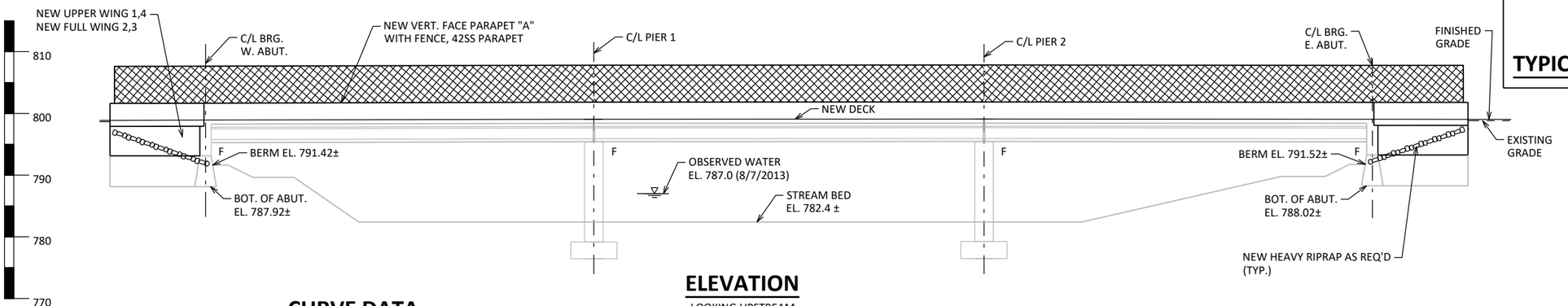
◯ INDICATES GIRDER NUMBER

NOTE: SURFACE DRAIN ANCHORS LOCATED AT WINGS 2 AND 3. SEE WING DETAIL SHEETS.




## PLAN

3-SPAN - 36" PRESTRESSED GIRDERS




## ELEVATION

LOOKING UPSTREAM

NOTE: WATER ELEVATIONS TAKEN FROM AS-BUILT AND STRUCTURE INSPECTION. BERM AND ABUTMENT ELEVATIONS BASED ON SURVEY AND AS-BUILT DATA.

## CURVE DATA

**STH 59 EB**

P.I. = 75+06.21
Δ = 42°19'24"
D = 2°56'12"
T = 755.28'
L = 1441.24'
R = 1951.09'
S.E. = 5.3%, 1.5%
P.C. = 67+50.93
P.T. = 81+92.17

## DESIGN DATA

**LIVE LOAD:**

DESIGN LOADING: HS-20
INVENTORY RATING: HS-21
OPERATING RATING: HS-35
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

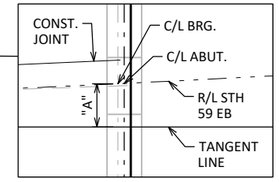
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

**MATERIAL PROPERTIES:**

CONCRETE MASONRY:
SUPERSTRUCTURE — $f'_c$ = 4,000 PSI
ALL OTHER — $f'_c$ = 3,500 PSI

BAR STEEL REINFORCEMENT
GRADE 60 — $f_y$ = 60,000 PSI

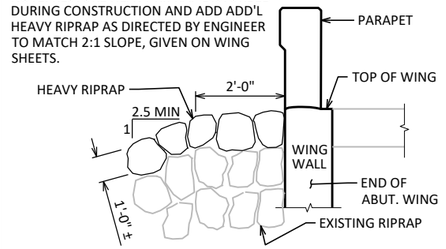
36" PRESTRESSED GIRDER (SPAN 3, GIRDER 1):
CONCRETE MASONRY — $f'_c$ = 6,000 PSI
STRANDS: 0.5" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.




NOTE: DIMENSION "A" IS MEASURED AT THE C/L BRG. FOR ABUTMENTS AND AT C/L PIER FOR PIERS.

| DIM. "A" | | | |
|---|---|---|---|
| WEST ABUT. | PIER 1 | PIER 2 | EAST ABUT. |
| 2'-3 ½ " | 3 ⅛ " | 3 ⅛" | 2'-3 ½" |

NOTE: RESTORE HEAVY RIPRAP DISTURBED DURING CONSTRUCTION AND ADD ADD'L HEAVY RIPRAP AS DIRECTED BY ENGINEER TO MATCH 2:1 SLOPE, GIVEN ON WING SHEETS.




## TYPICAL FILL SECTION AT WING TIPS

## TRAFFIC DATA

**STH 59:**
ADT = 22,900 (2044)
R.D.S. = 50 MPH

**STRUCTURE DESIGN CONTACTS:**

| | |
|---|---|
| DAN MONROE | 608-266-8490 |
| KYLE BUSCH | 608-267-0465 |

## LIST OF DRAWINGS:

1 NEW DECK
2 CROSS SECTION & GENERAL NOTES
3 TYPICAL SECTIONS & QUANTITIES
4 STAGING DETAILS 1
5 STAGING DETAILS 2
6 WING REMOVAL DETAILS
7 WING 1 REPLACEMENT
8 WING 2 REPLACEMENT
9 WING 3 REPLACEMENT
10 WING 4 REPLACEMENT
11 36" PRESTRESSED GIRDER DETAILS
12 STEEL DIAPHRAGM
13 TANGENT - OFFSET DECK LAYOUT
14 SUPERSTRUCTURE PLAN
15 SUPERSTRUCTURE CROSS SECTION
16 SUPERSTRUCTURE DETAILS 1
17 SUPERSTRUCTURE DETAILS 2
18 SINGLE SLOPE PARAPET 42SS - SOUTH SIDE
19 SINGLE SLOPE PARAPET 42SS - NORTH SIDE
20 VERTICAL FACE PARAPET "A"
21 FENCING DETAILS
22 GIRDER REPAIR

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

WISCONSIN DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

ACCEPTED KHB 3/24/23
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STATE PROJECT NUMBER
**2715-03-73**

**STRUCTURE B-67-152**

STH 59 EB OVER FOX RIVER

| COUNTY | TOWN |
|---|---|
| WAUKESHA | WAUKESHA |

DESIGN SPEC. REHABILITATION N/A

| DESIGNED BY | DESIGNED CK'D | DRAWN BY | PLANS CK'D |
|---|---|---|---|
| DLM | RRH | DLM | RRH |

**NEW DECK**

SHEET 1 OF 22
222

SCALE =

I.D. 2715-03-03E

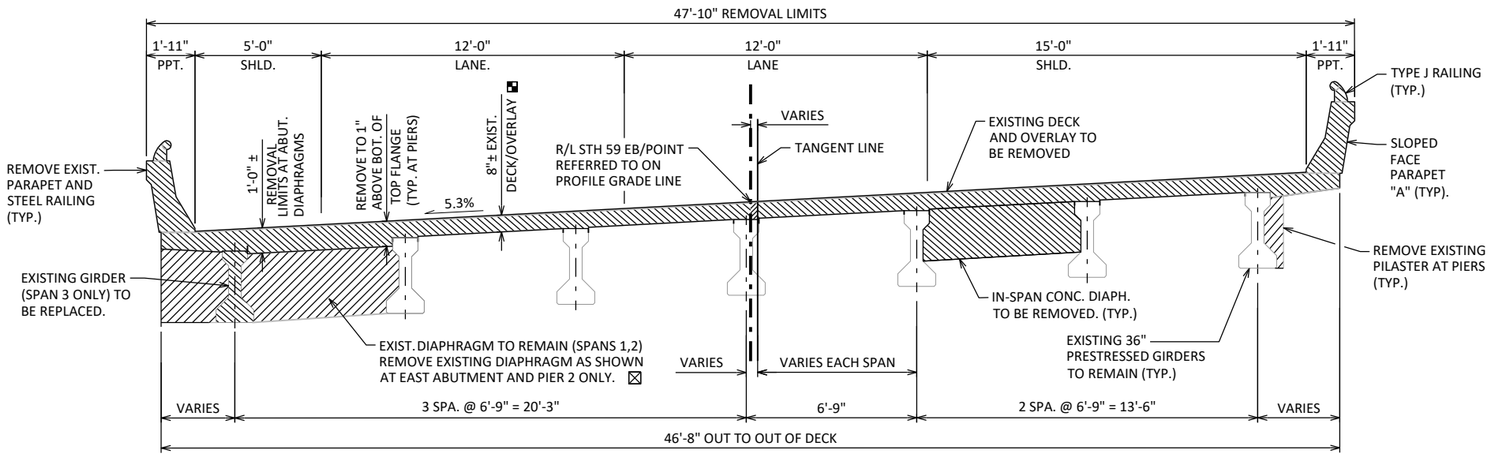
DATE: MARCH 2023

8

8

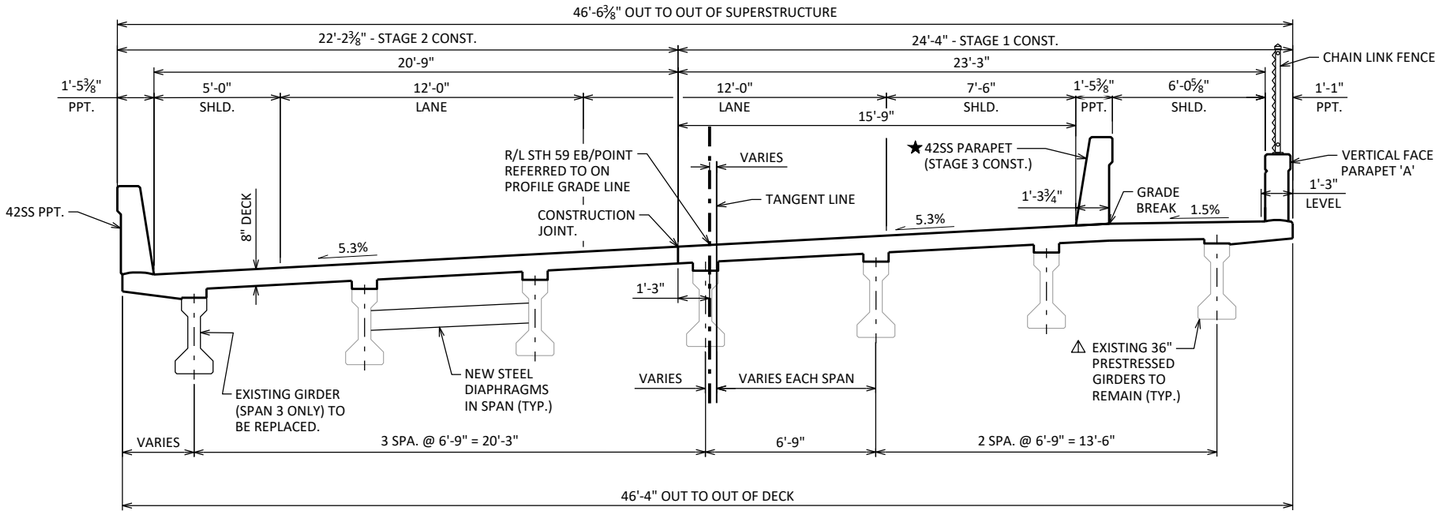
STATE PROJECT NUMBER

**2715-03-73**




## EXISTING CROSS SECTION THRU ROADWAY

LOOKING EAST (UPSTATION). SHOWING REMOVAL LIMITS.




## PROPOSED CROSS SECTION THRU ROADWAY

LOOKING EAST (UPSTATION)

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-67-152" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK SURFACE AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE EXTERIOR PARAPETS, INCLUDING PARAPETS ON WING WALLS. APPLY TO FRONT FACE, TOP, AND BACK FACE OF INTERIOR PARAPET.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS AND AT WINGS SHALL BE COVERED WITH HEAVY RIPRAP TO THE EXTENT SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "36" PRESTRESSED GIRDER DETAILS" SHEET.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1974.

⚠ CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE TOP FLANGE OF GIRDER AND SHEAR STIRRUPS. SAWCUTTING OF THE EXISTING SHEAR STIRRUPS IS NOT ALLOWED. THE ENGINEER SHALL INSPECT THE GIRDERS PRIOR TO PLACING THE DECK.

CONCRETE SURFACE REPAIR AREAS ANTICIPATED AT TOP OF PIER 1 COLUMN 3, AND AT ABUTMENT CORNERS. LOCATIONS AND EXTENTS SHALL BE DETERMINED BY FIELD ENGINEER.

ASBESTOS MATERIAL IS PRESENT IN THE GASKETS UNDER THE RAILING. REMOVAL INCLUDED IN 'ABATEMENT OF ASBESTOS CONTAINING MATERIAL' BID ITEM.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAWCUT, UNLESS SPECIFIED OTHERWISE.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF WINGS/ABUTMENTS WITH "RUBBERIZED MEMBRANE WATERPROOFING.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

EPOXY CRACK SEALING AREAS ANTICIPATED AT CRACKS IN WEST AND EAST ABUTMENTS. QUANTITIES ARE APPROXIMATE. LOCATIONS AND EXTENTS SHALL BE DETERMINED BY FIELD ENGINEER.

★ ADHESIVE ANCHOR CONNECTION AT PARAPET. SEE "SUPERSTRUCTURE PLAN", "SUPERSTRUCTURE CROSS SECTION", AND "SINGLE SLOPE PARAPET 42SS SOUTH END" SHEETS FOR DETAILS

☒ NOTE: PRESERVE EXISTING HORIZONTAL REINFORCEMENT OF DIAPHRAGM AT BACK FACE AND AS SHOWN IN PLAN. PRESERVE EXISTING VERTICAL BARS BETWEEN DIAPHRAGM. INCORPORATE INTO NEW WORK.

◪ ORIGINAL DECK = 7½"
CONCRETE OVERLAY = 1½"
CONCRETE OVERLAY - 1" MILL = ½" INCREASE
ASSUMED TOTAL EXIST. THICKNESS = 7½" + ½" = 8"

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**CROSS SECTION & GENERAL NOTES**

SHEET 2
223

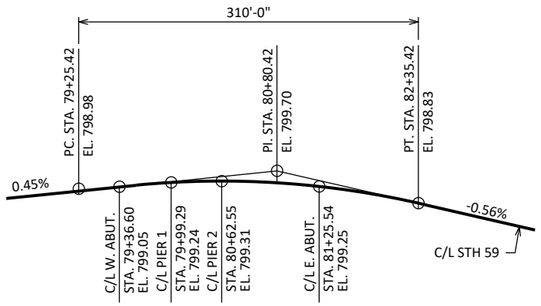
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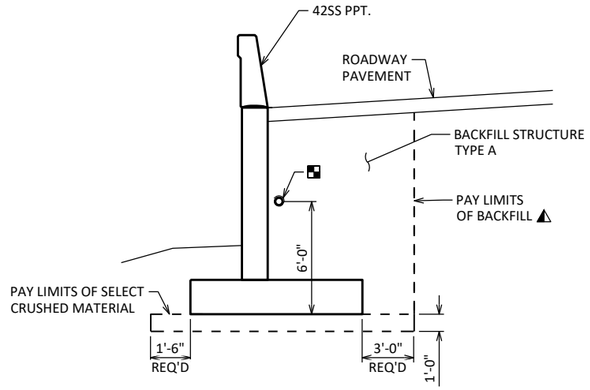
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STATE PROJECT NUMBER

**2715-03-73**

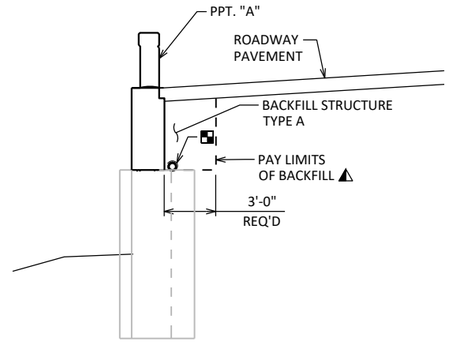



## PROFILE GRADE LINE




## TYPICAL SECTION THRU WINGS 2 & 3

PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

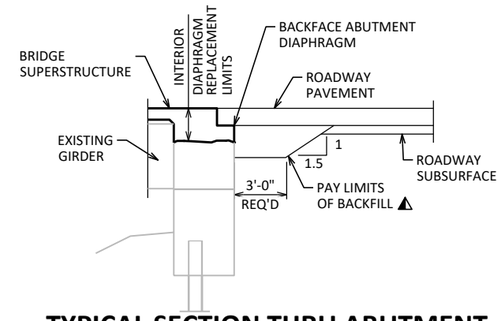



## TYPICAL SECTION THRU WINGS 1 & 4

PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

## TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | SUPER. | W. ABUT. | PIER 1 | PIER 2 | E. ABUT. | TOTALS |
|---|---|---|---|---|---|---|---|---|
| 203.0211.S | ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-67-152 | EACH | ------- | ------- | ------- | ------- | ------- | 1 |
| 203.0260 | REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-67-152 | EACH | ------- | ------- | ------- | ------- | ------- | 1 |
| 206.1001 | EXCAVATION FOR STRUCTURES BRIDGES B-67-152 | EACH | ------- | ------- | ------- | ------- | ------- | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | ------- | 108 | ------- | ------- | 122 | 230 |
| 312.0110 | SELECT CRUSHED MATERIAL | TON | ------- | 14 | ------- | ------- | 14 | 28 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 303.3 | 20.0 | 1.0 | 3.1 | 22.2 | 350 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 921 | ------- | ------- | ------- | ------- | 921 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 339 | 12 | ------- | ------- | 12 | 363 |
| 502.4205 | ADHESIVE ANCHORS NO. 5 BAR | EACH | 147 | 38 | ------- | ------- | 38 | 223 |
| 502.4206 | ADHESIVE ANCHORS NO. 6 BAR | EACH | 344 | ------- | ------- | ------- | ------- | 344 |
| 503.0136 | PRESTRESSED GIRDER TYPE I 36-INCH | LF | 63 | ------- | ------- | ------- | ------- | 63 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | ------- | ------- | 460 | 460 | ------- | 920 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 84,390 | 2,620 | ------- | ------- | 2,640 | 89,650 |
| 506.2605 | BEARING PADS ELASTOMERIC NON-LAMINATED | EACH | 1 | ------- | ------- | ------- | ------- | 1 |
| 506.4000 | STEEL DIAPHRAGMS B-67-152 | EACH | 18 | ------- | ------- | ------- | ------- | 18 |
| 509.1500 | CONCRETE SURFACE REPAIR | SF | 5 | 5 | 5 | ------- | 5 | 20 |
| 509.9020.S | EPOXY CRACK SEALING | LF | ------- | 17 | ------- | ------- | 13 | 30 |
| 511.1200 | TEMPORARY SHORING B-67-152 | SF | ------- | 300 | ------- | ------- | 300 | 600 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | | 7 | ------- | ------- | 10 | 17 |
| 606.0300 | RIPRAP HEAVY | CY | ------- | 14 | ------- | ------- | 14 | 28 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | ------- | 34 | ------- | ------- | 34 | 68 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | 4 | ------- | ------- | ------- | ------- | 4 |
| 616.0206 | FENCE CHAIN LINK 6-FT | LF | 191 | 14 | ------- | ------- | 14 | 219 |
| SPV.0165 | FIBER WRAP REINFORCING NON-STRUCTURAL | SF | 55 | ------- | ------- | ------- | ------- | 55 |
| | NON-BID ITEMS | | | | | | | |
| | FILLER | SIZE | ------- | ------- | ------- | ------- | ------- | 1/2", 3/4" |




## TYPICAL SECTION THRU ABUTMENT

BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

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| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

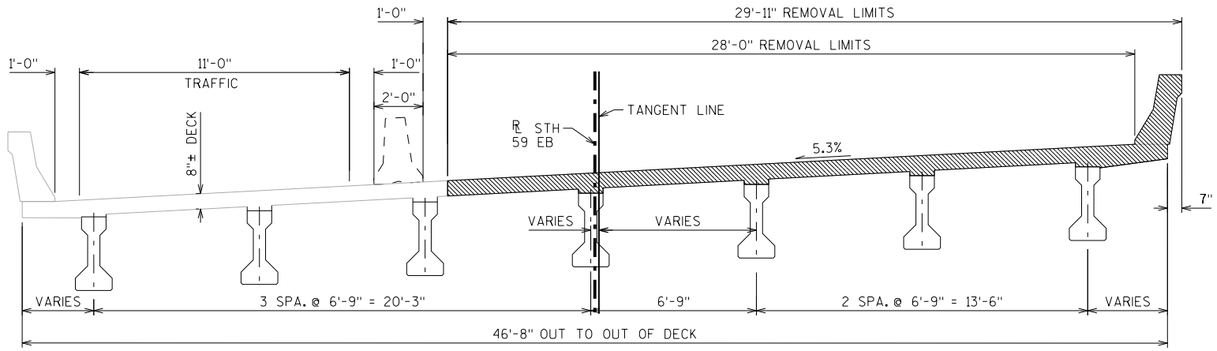
**TYPICAL SECTIONS & QUANTITIES**

SHEET 3
224

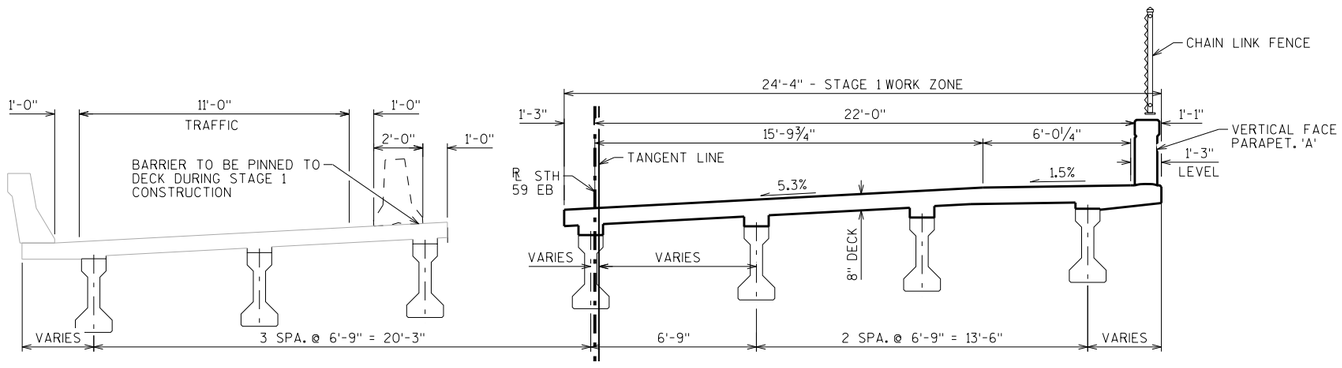
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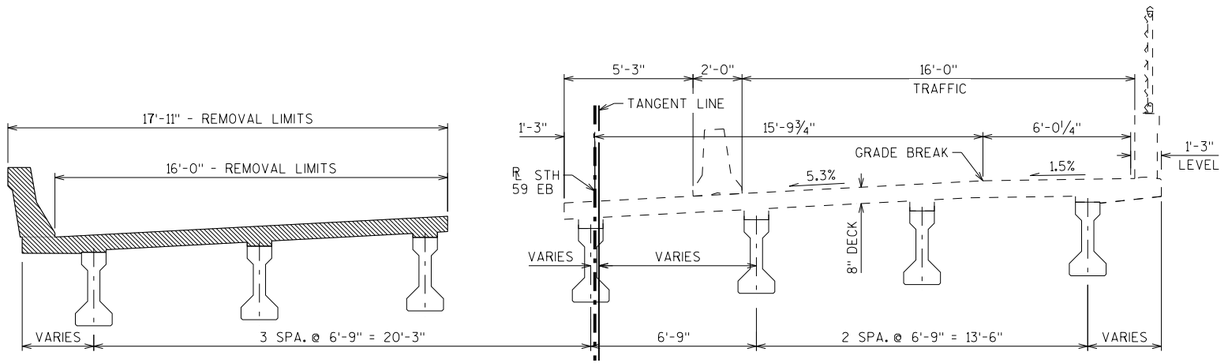
2715-03-73




## STAGE 1 REMOVAL




## STAGE 1 CONSTRUCTION




## STAGE 2 REMOVAL

8

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-152

DRAWN BY DLM | PLANS CK'D. RRH

STAGING DETAILS 1

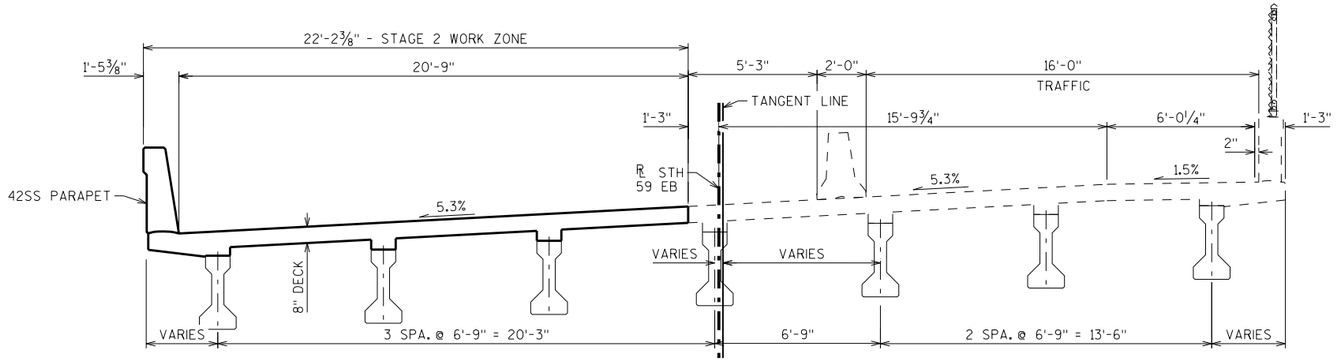
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225

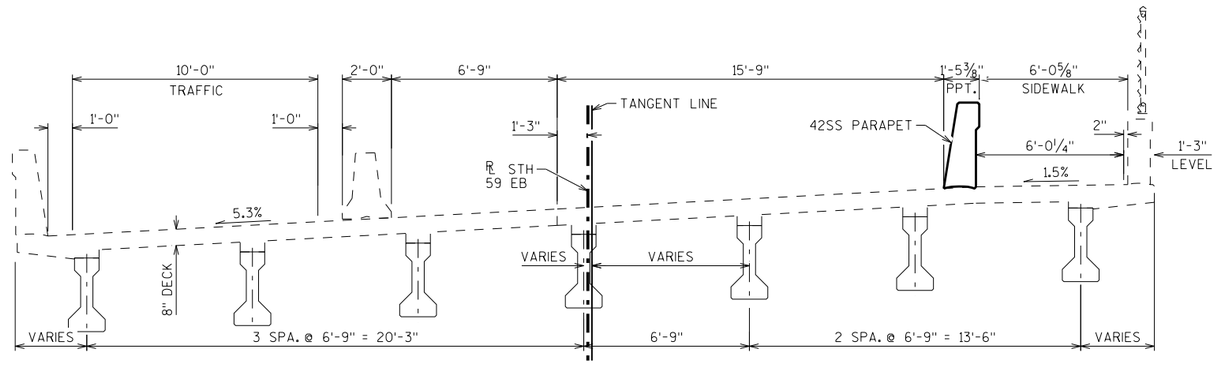
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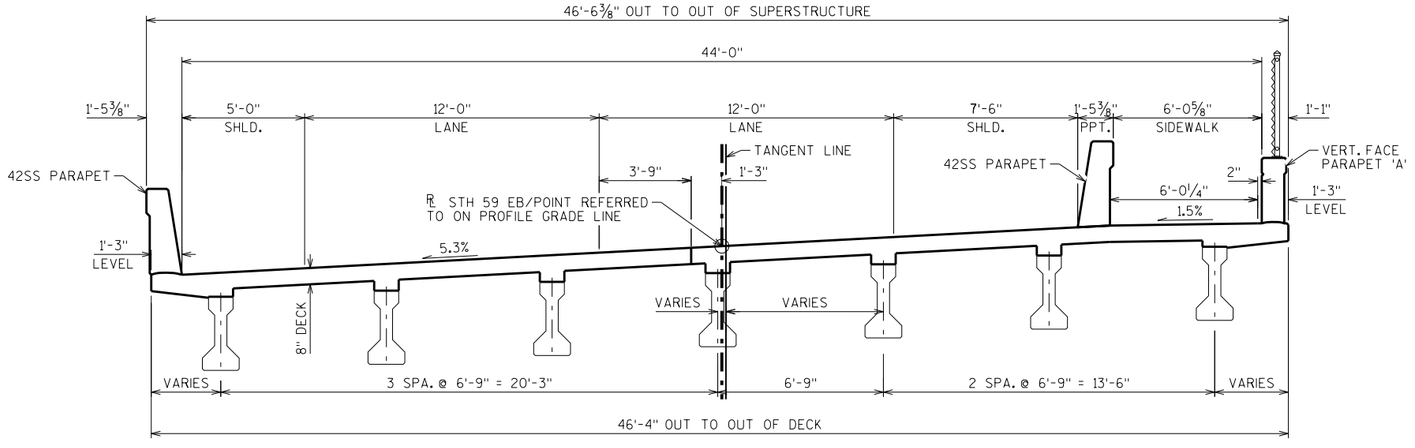
2715-03-73




## STAGE 2 CONSTRUCTION




## STAGE 3 CONSTRUCTION




## FINISHED CROSS SECTION

8

8

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-152

DRAWN BY DLM | PLANS CK'D. RRH

STAGING DETAILS 2

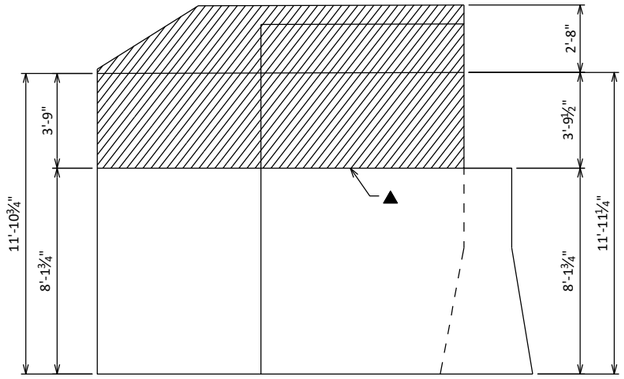
SHEET 5

226

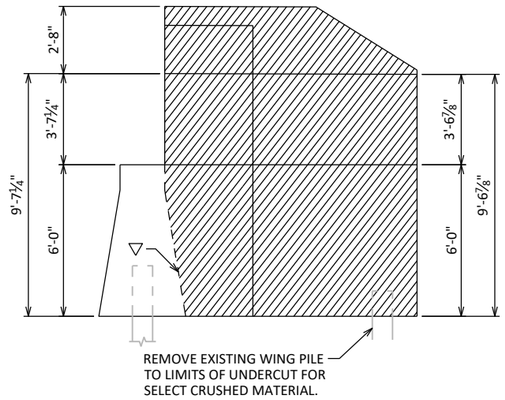
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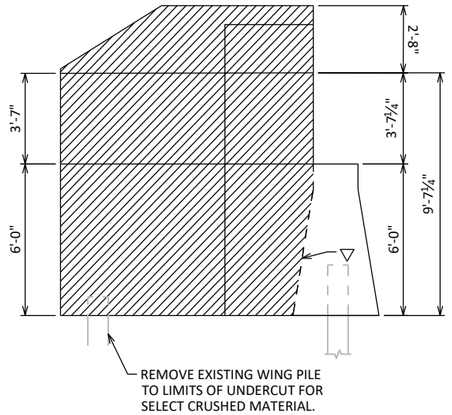
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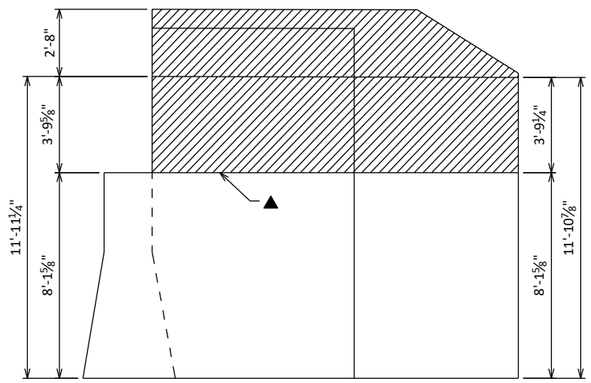

**WING 1 (SOUTHWEST)**
LOOKING AT FRONT FACE




**WING 2 (NORTHWEST)**
LOOKING AT FRONT FACE




**WING 3 (NORTHEAST)**
LOOKING AT FRONT FACE




**WING 4 (SOUTHEAST)**
LOOKING AT FRONT FACE

# WING AND PARAPET REMOVAL DETAILS

REMOVAL LIMITS

▲ EXISTING #4 BARS (F.F.) , #5 BARS (B.F.) PRESERVE AND INCORPORATE MIN. 2'-7" INTO NEW WORK.

▽ EXISTING #4 BARS (F.F.) , PRESERVE AND INCORPORATE MIN. 2'-1" INTO NEW WORK.

NOTE: ALL LINES OF REMOVAL SHALL BE DEFINED BY A 1" DEEP SAWCUT.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

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**WING REMOVAL DETAILS**

SHEET 6
227

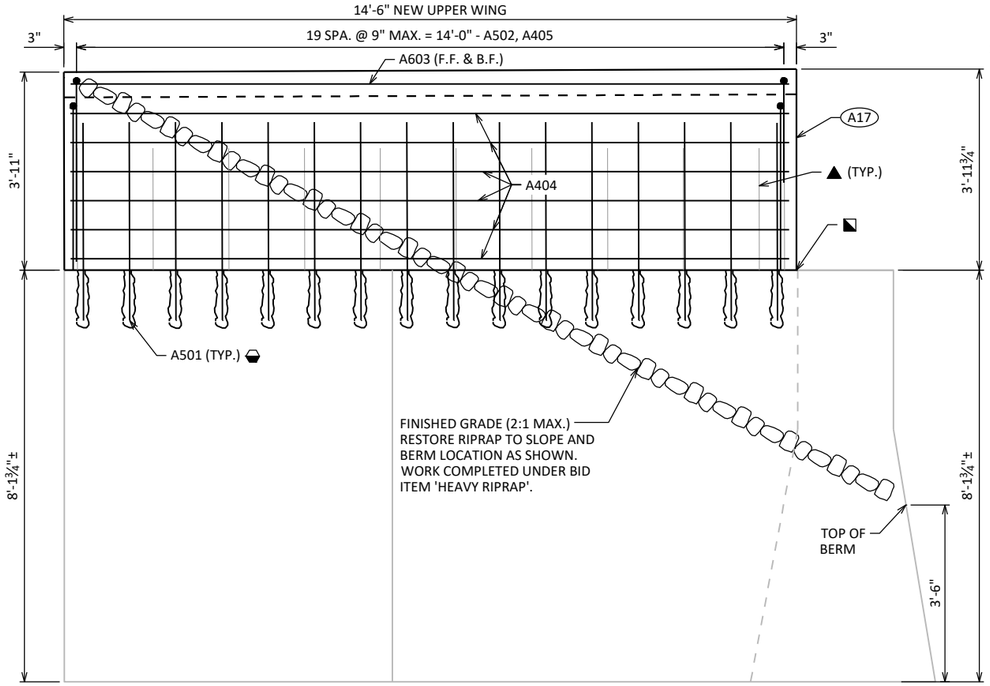
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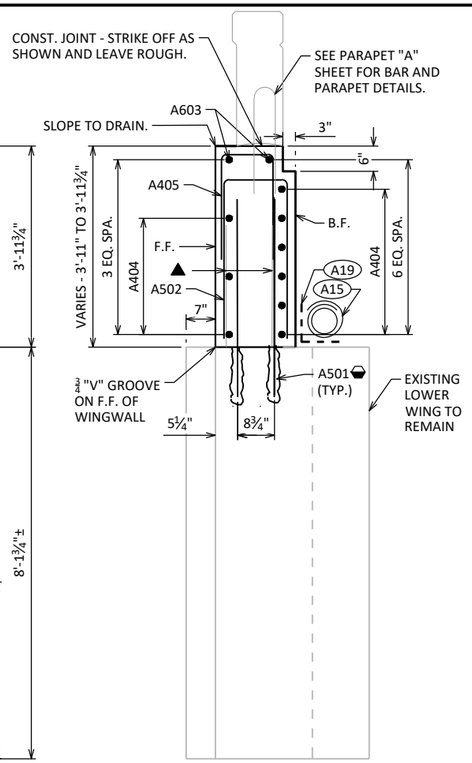
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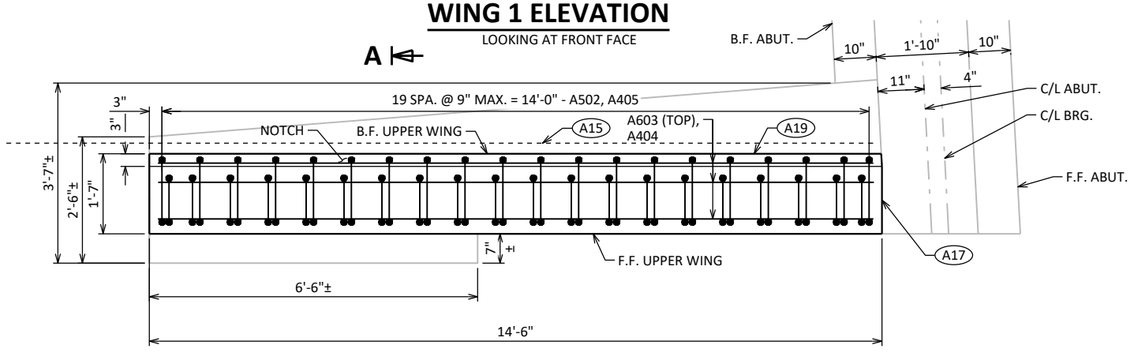
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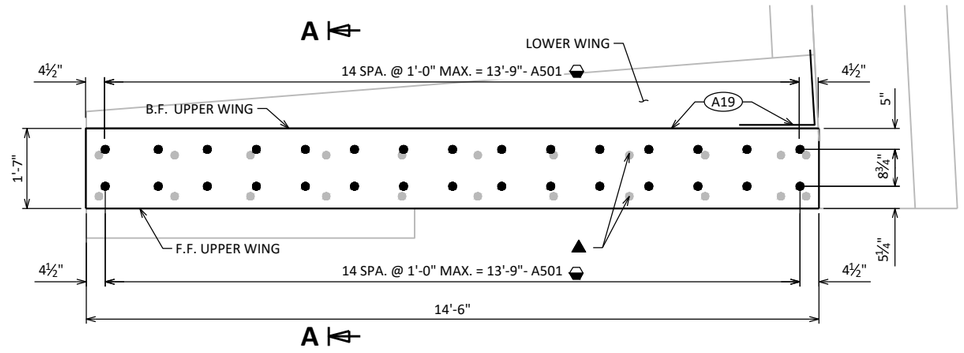

## WING 1 ELEVATION




## SECTION A-A




## WING 1 PLAN

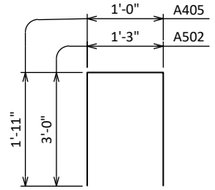



## ADHESIVE ANCHOR PLAN

## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| ⬭ A501 | X | 30 | 4'-0" | | | UPPER/LOWER WING - ADHESIVE ANCHOR |
| A502 | X | 20 | 7'-0" | X | | UPPER WING - VERT. |
| A603 | X | 2 | 14'-2" | | | UPPER WING - HORIZ. - TOP |
| A404 | X | 9 | 14'-2" | | | UPPER WING - HORIZ. |
| A405 | X | 20 | 4'-8" | X | | UPPER WING - VERT. |




## A502, A405

▲ EXISTING #4 BARS (F.F.) , #5 BARS (B.F.) PRESERVE AND INCORPORATE MIN. 2'-7" INTO NEW WORK.

⬭ ADHESIVE ANCHORS. EMBED 1'-0" INTO SOUND CONCRETE @ SPACE 1'-0" MAX, PLACED AS SHOWN. FIELD ADJUSTMENTS SHALL BE APPROVED BY ENGINEER. ANCHORS SHALL BE 2¼" MIN. CLR. WITH EXISTING BARS.

◥ ROUGHEN SURFACE OF CONCRETE ¼" DEEP MINIMUM ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTERLINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

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**WING 1 REPLACEMENT**

SHEET 7
228

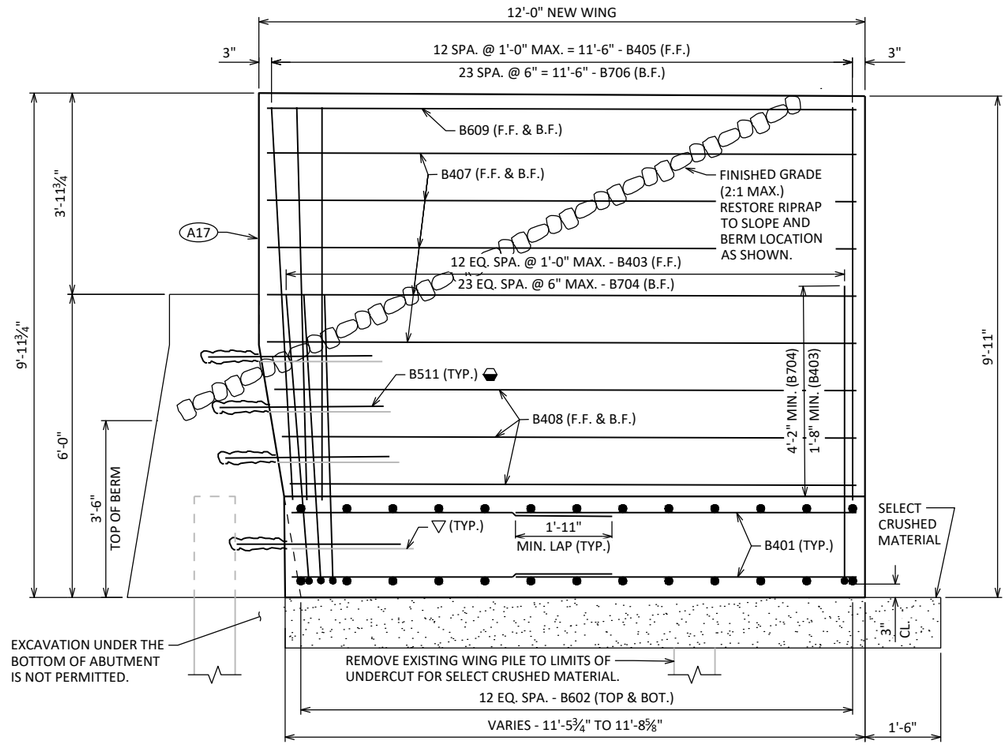
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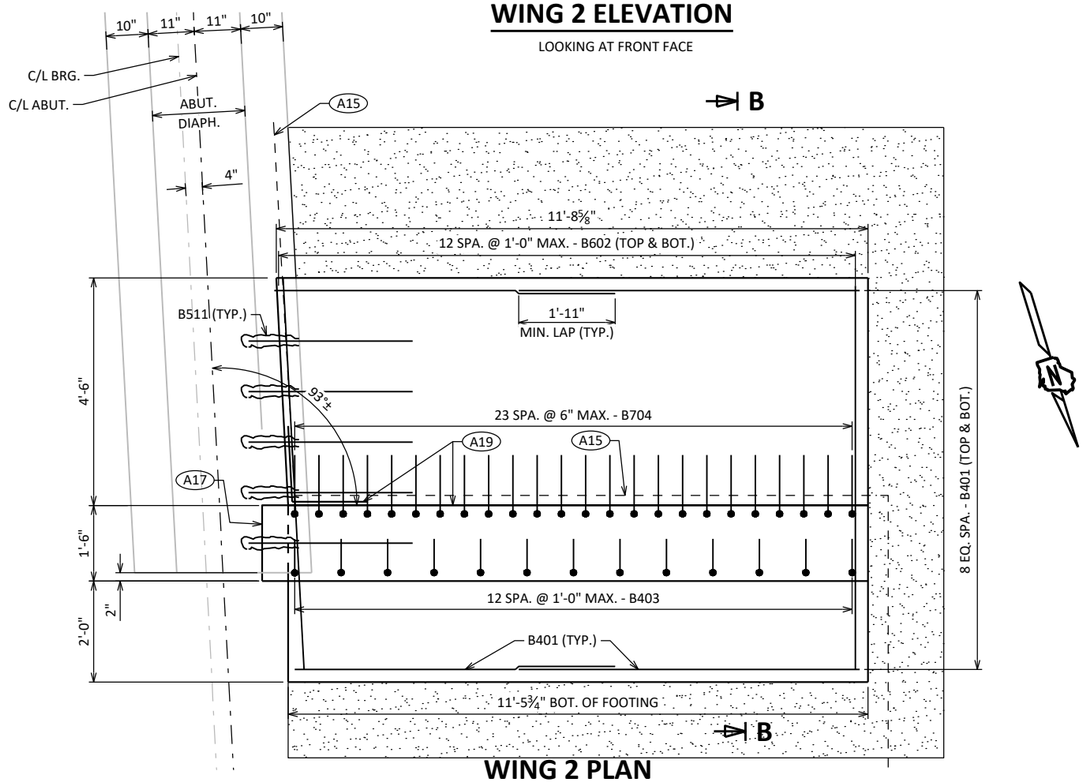
STATE PROJECT NUMBER

**2715-03-73**



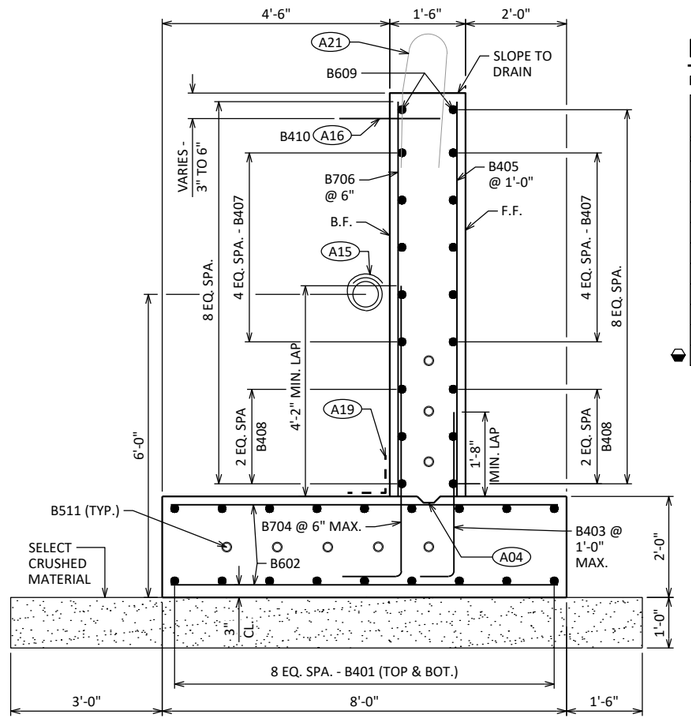

## WING 2 ELEVATION

LOOKING AT FRONT FACE




## WING 2 PLAN

SHOWING LONGIT., TRANS, AND DOWEL FOOTING STEEL ONLY.




## SECTION B-B

## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| B401 | | 36 | 6'-9" | | | FOOTING - LONGIT. - TOP & BOT. |
| B602 | | 26 | 7'-6" | | | FOOTING - TRANS. - TOP & BOT. |
| B403 | X | 13 | 4'-0" | X | | FOOTING TO STEM - VERT. - F.F. |
| B704 | X | 24 | 6'-10" | X | | FOOTING TO STEM - VERT. - B.F. |
| B405 | X | 13 | 7'-9" | | | STEM - VERT. - F.F. |
| B706 | X | 24 | 7'-9" | | | STEM - VERT. - B.F. |
| B407 | X | 10 | 11'-8" | | | STEM - HORIZ. - F.F. & B.F. |
| B408 | X | 6 | 11'-4" | ⚠ | | STEM - HORIZ. - F.F. & B.F. |
| B609 | X | 2 | 11'-8" | | | STEM - HORIZ. - TOP - F.F. & B.F. |
| B410 | X | 12 | 2'-0" | | | SURFACE DRAIN ANCHORS |
| B511 | X | 8 | 3'-5" | | | ADHESIVE ANCHORS |

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

## BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| B408 | 2 SERIES OF 3 | 11'-2" TO 11'-6" |

▽ EXISTING #4 BARS (F.F.) , PRESERVE AND INCORPORATE MIN. 2'-1" INTO NEW WORK.

ADHESIVE ANCHORS. EMBED 1'-0" INTO SOUND CONCRETE @ SPACE 1'-0" MAX, PLACED AS SHOWN. ADJUST AS REQUIRED AND APPROVED BY ENGINEER FOR PLACEMENT AROUND PILES.

A04 VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE.

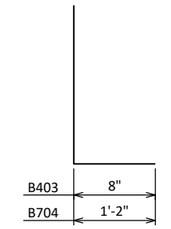
A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

A16 B410 BARS SPACED @ 1'-0" CTRS. EMBED 1'-0" INTO WING CONC. LOCATE 3" DOWN FROM TOP OF WING @ BACKFACE TO 6" DOWN @ WING TIP.

A17 ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTERLINE AT INSIDE FACE.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

A21 FOR PPT. BARS & DIMENSIONS SEE PPT. SHEET.




## B403, B704

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**WING 2 REPLACEMENT**

SHEET 8

229

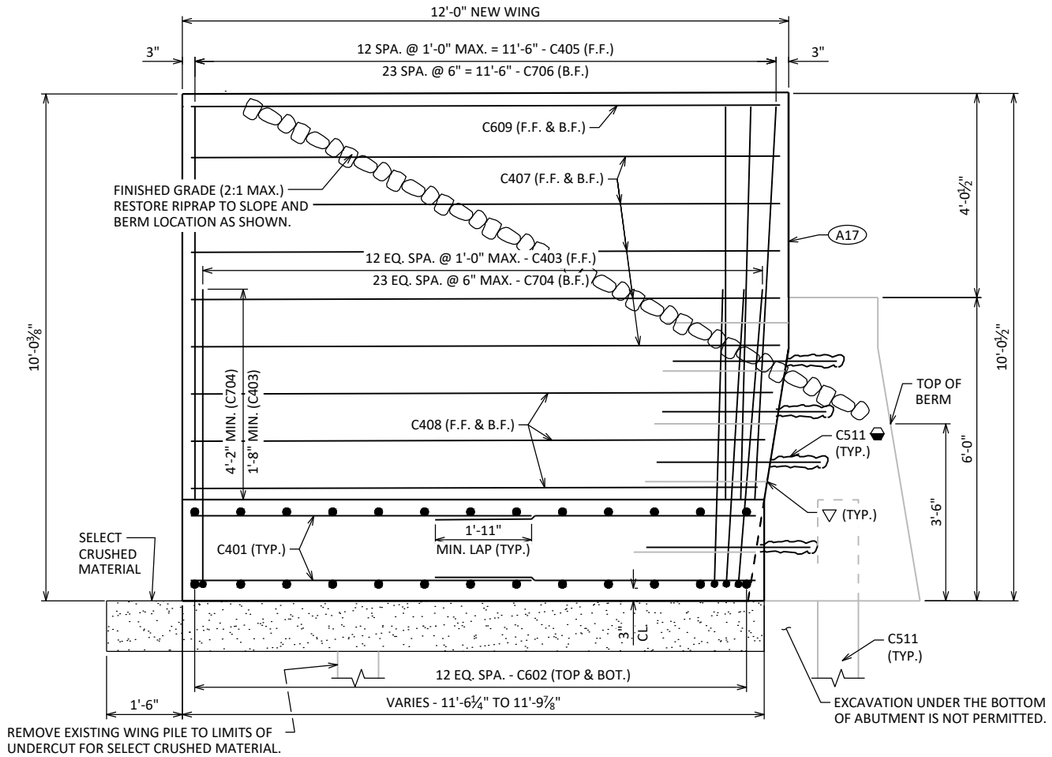
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8

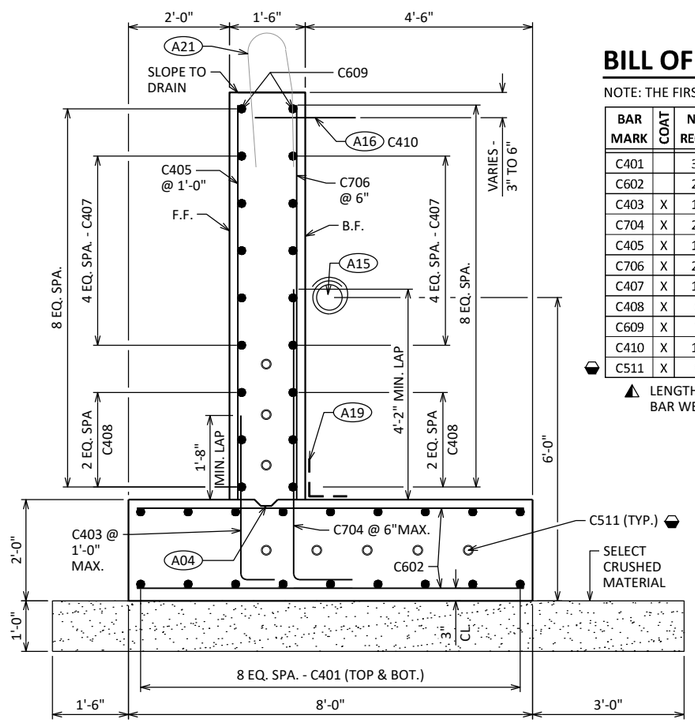
STATE PROJECT NUMBER

**2715-03-73**




## WING 3 ELEVATION

LOOKING AT FRONT FACE




## SECTION C-C

## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

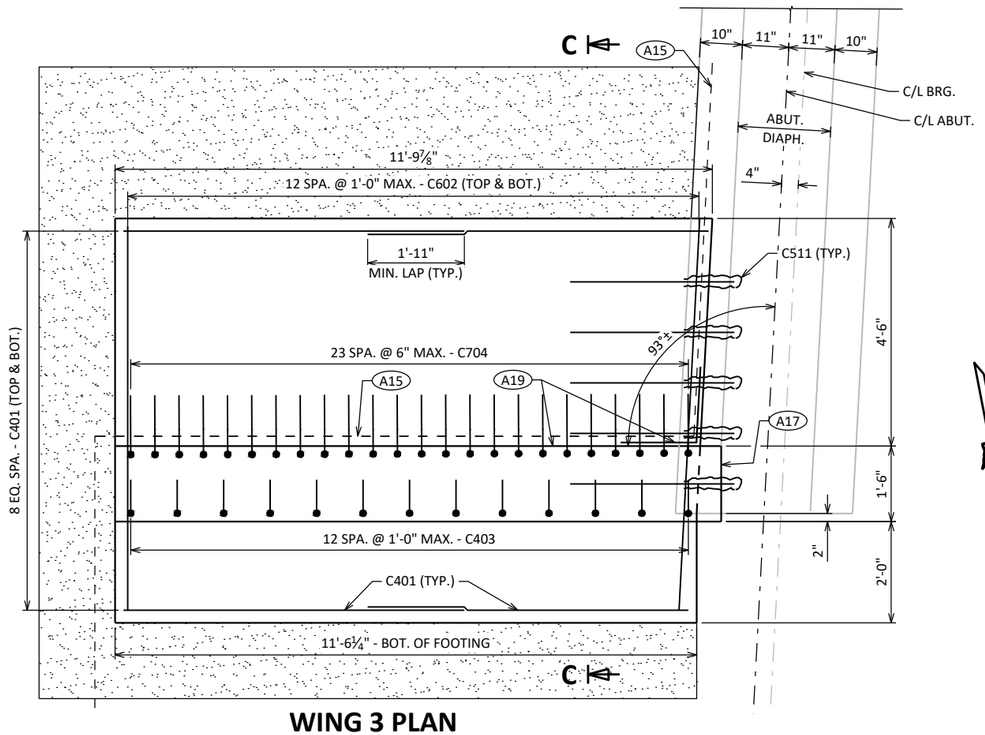
| BAR MARK | COAT | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| C401 | | 36 | 6'-9" | | | FOOTING - LONGIT. - TOP & BOT. |
| C602 | | 26 | 7'-6" | | | FOOTING - TRANS. - TOP & BOT. |
| C403 | X | 13 | 4'-0" | X | | FOOTING TO STEM - VERT. - F.F. |
| C704 | X | 24 | 6'-10" | X | | FOOTING TO STEM - VERT. - B.F. |
| C405 | X | 13 | 8'-0" | | | STEM - VERT. - F.F. |
| C706 | X | 24 | 8'-0" | | | STEM - VERT. - B.F. |
| C407 | X | 10 | 11'-8" | | | STEM - HORIZ. - F.F. & B.F. |
| C408 | X | 6 | 11'-4" | ⚠ | | STEM - HORIZ. - F.F. & B.F. |
| C609 | X | 2 | 11'-8" | | | STEM - HORIZ. - TOP - F.F. & B.F. |
| C410 | X | 12 | 2'-0" | | | SURFACE DRAIN ANCHORS |
| C511 | X | 8 | 3'-5" | | | ADHESIVE ANCHORS |

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

## BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| C408 | 2 SERIES OF 3 | 11'-2" TO 11'-6" |




## WING 3 PLAN

SHOWING LONGIT., TRANS, AND DOWEL FOOTING STEEL ONLY.

▽ EXISTING #4 BARS (F.F.) , PRESERVE AND INCORPORATE MIN. 2'-1" INTO NEW WORK.

ADHESIVE ANCHORS. EMBED 1'-0" INTO SOUND CONCRETE @ SPACE 1'-0" MAX, PLACED AS SHOWN. ADJUST AS REQUIRED AND APPROVED BY ENGINEER FOR PLACEMENT AROUND PILES.

A04 CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE.

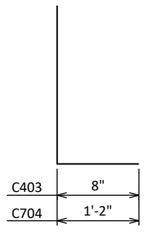
A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

A16 B410 BARS SPACED @ 1'-0" CTRS. EMBED 1'-0" INTO WING CONC. LOCATE 3" DOWN FROM TOP OF WING @ BACKFACE TO 6" DOWN @ WING TIP.

A17 ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTERLINE AT INSIDE FACE.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

A21 FOR PPT. BARS & DIMENSIONS SEE PPT. SHEET.




## C403, C704

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**WING 3 REPLACEMENT**

SHEET 9

230

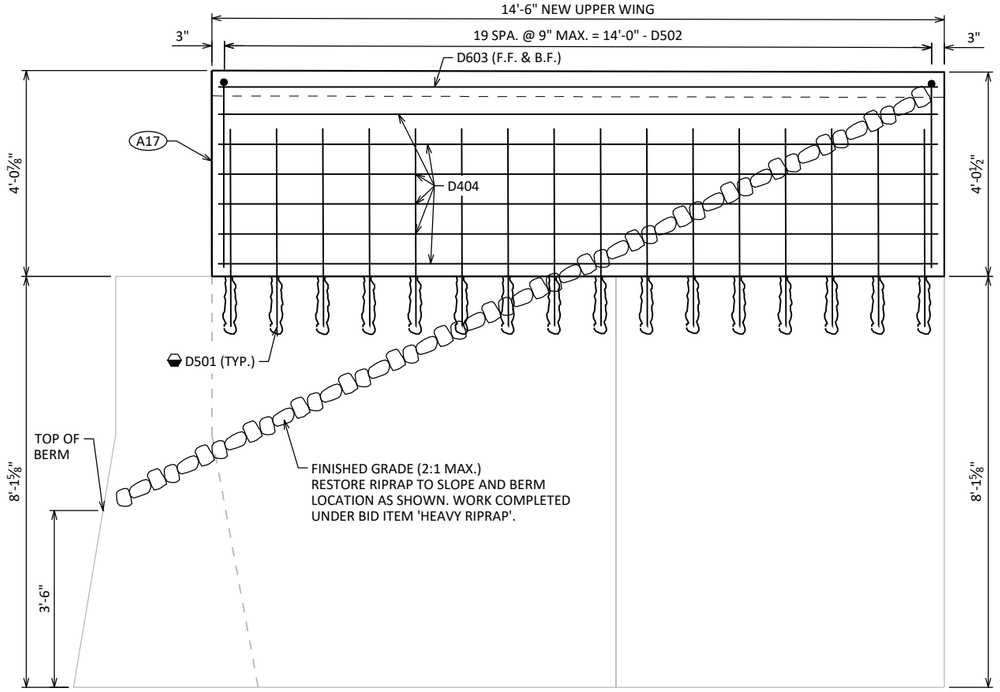
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8

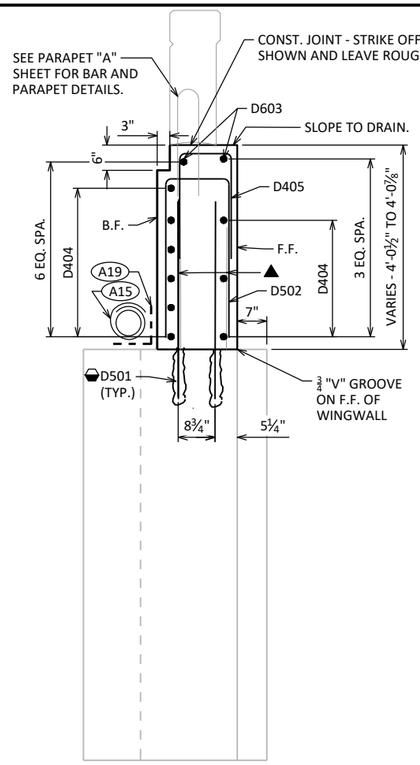
STATE PROJECT NUMBER

**2715-03-73**




## WING 4 ELEVATION

LOOKING AT FRONT FACE

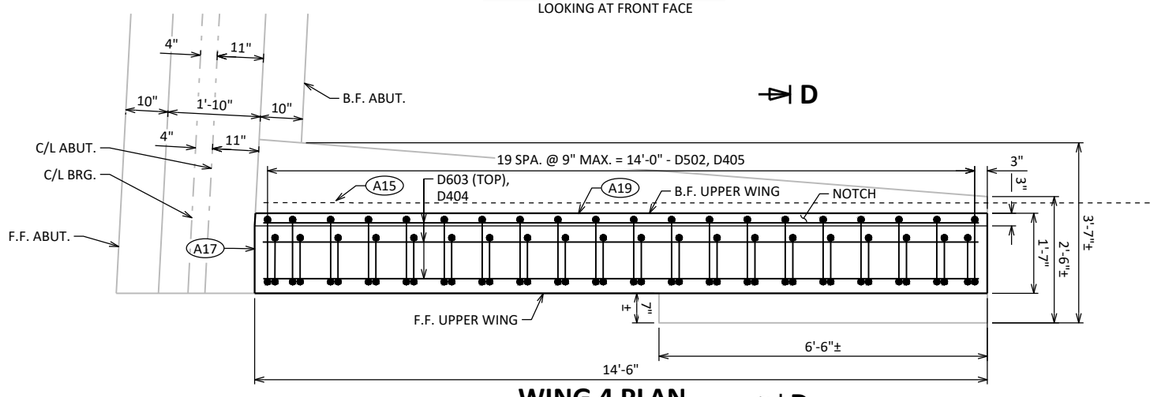



## SECTION D-D

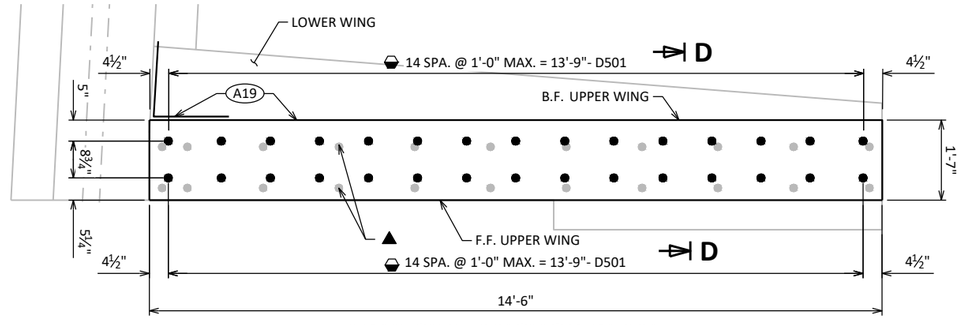
## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

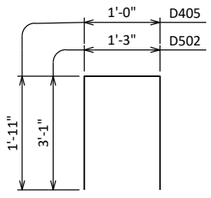
| BAR MARK | COAT | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| D501 | X | 30 | 4'-0" | | | UPPER/LOWER WING - ADHESIVE ANCHOR |
| D502 | X | 20 | 7'-2" | X | | UPPER WING - VERT. |
| D603 | X | 2 | 14'-2" | | | UPPER WING - HORIZ. - TOP |
| D404 | X | 9 | 14'-2" | | | UPPER WING - HORIZ. |
| D405 | X | 20 | 4'-8" | X | | UPPER WING - VERT. |




## WING 4 PLAN




## ADHESIVE ANCHOR PLAN




## D502, D405

▲ EXISTING #4 BARS (F.F.) , #5 BARS (B.F.) PRESERVE AND INCORPORATE MIN. 2'-7" INTO NEW WORK.

ADHESIVE ANCHORS. EMBED 1'-0" INTO SOUND CONCRETE @ SPACE 1'-0" MAX, PLACED AS SHOWN. FIELD ADJUSTMENTS SHALL BE APPROVED BY ENGINEER. ANCHORS SHALL BE 2¼" MIN. CLR. WITH EXISTING BARS.

ROUGHEN SURFACE OF CONCRETE ¼" DEEP MINIMUM ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTERLINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**WING 4 REPLACEMENT**

SHEET 10
231

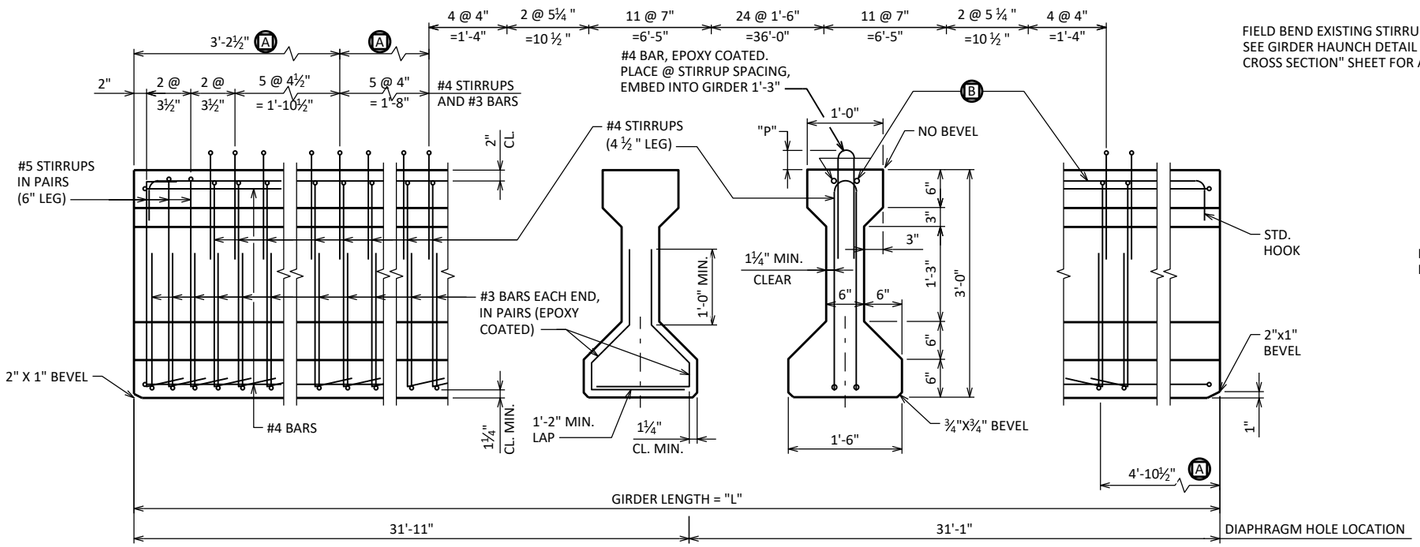
SCALE =

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STATE PROJECT NUMBER

**2715-03-73**

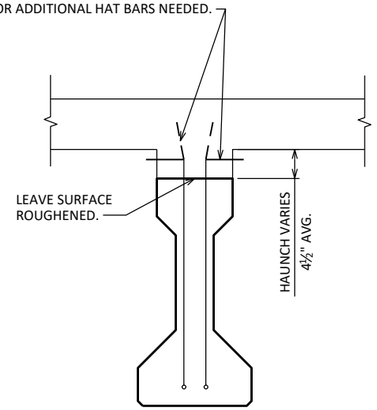



## SIDE VIEW & TYPICAL SECTION IN SPAN

(A1) DETAIL TYP. AT EACH END

(B) 2 # 4 BARS, FULL LENGTH, MIN. LAP = 1'-11", STD. HOOK AT ENDS

FIELD BEND EXISTING STIRRUPS AS REQUIRED.
SEE GIRDER HAUNCH DETAIL ON "SUPERSTRUCTURE CROSS SECTION" SHEET FOR ADDITIONAL HAT BARS NEEDED.




## EXISTING GIRDER BARS

## NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

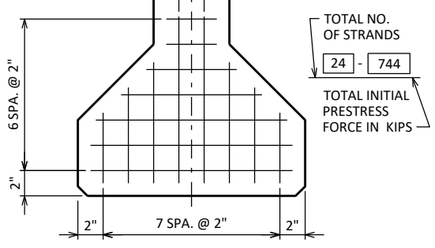
PRESTRESSING STRANDS SHALL BE 0.5" DIA. -7- WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

BEND EACH END OF #4 STIRRUPS 4½" AND #5 STIRRUPS 6".

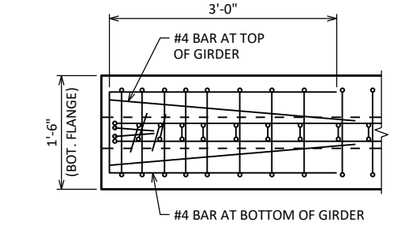
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

## EXISTING GIRDER DEFLECTIONS

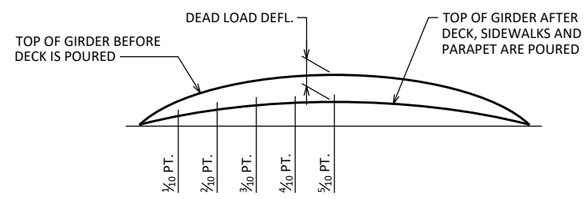
| SPAN | GIRDER | DEAD LOAD DEFLECTION (IN.) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 |
| 1 | 1-7 | 0.3 | 0.6 | 0.8 | 0.9 | 1.0 | 0.9 | 0.8 | 0.6 | 0.3 |
| 2 | 1-7 | 0.3 | 0.6 | 0.8 | 0.9 | 0.9 | 0.9 | 0.8 | 0.6 | 0.3 |
| 3 | 2-7 | 0.3 | 0.6 | 0.8 | 0.9 | 1.0 | 0.9 | 0.8 | 0.6 | 0.3 |




## TYP. STRAND PATTERN




## TOP VIEW OF GIRDER ENDS

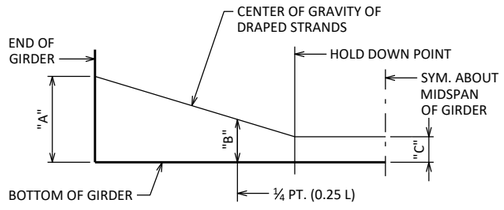



## DEAD LOAD DEFLECTION DIAGRAM

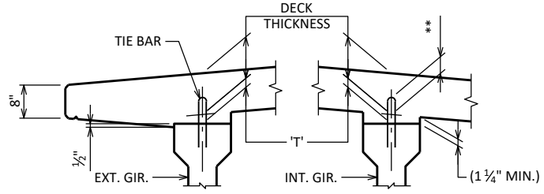
* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

| SPAN | CAMBER (IN.) * |
|---|---|
| 3 (G1) | 2.4 |

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.




## DRAPED STRAND PROFILE




## DECK HAUNCH DETAIL

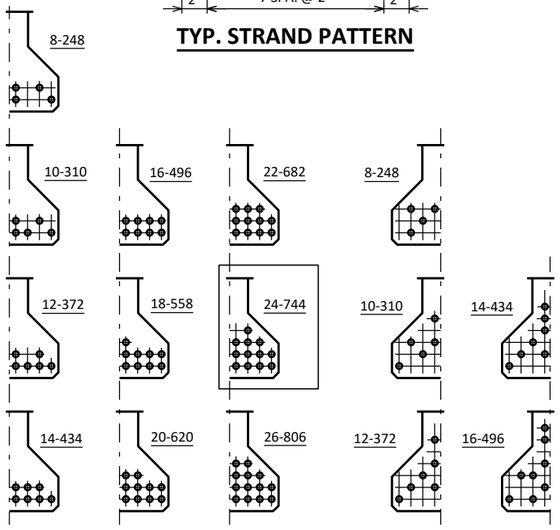
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT C/L OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 4½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".




**DRAPED PATTERN**
0.5" DIA. STRANDS

**UNDRAPED PATTERN**
0.5" DIA. STRANDS

⚹ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

## GIRDER DATA

| SPAN | GIRDER | GIRDER LENGTH "L" (FEET) | DEAD LOAD DEFL. (IN.) 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | CONC. STRGTH. f'c (P.S.I.) | "P" (IN.) 1ST 1/3 OF GIRDER | MID 1/3 OF GIRDER | END 1/3 OF GIRDER | DIA. OF STRAND (IN.) | DRAPED PATTERN TOTAL NO. OF STRANDS | f'ci (P.S.I.) ⚹ | ( IN.) "A" | "B" MIN. | "B" MAX. | "C" | UNDRAPED PATTERN TOTAL NO. OF STRANDS | f'ci (P.S.I.) ⚹ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 63'-0" | 0.3 | 0.6 | 0.8 | 1.0 | 1.0 | 1.0 | 0.8 | 0.6 | 0.3 | 6,000 | 7 | 7 | 7 | 0.5 | 24 | 5,300 | 23 | 8.75 | 11.75 | 4 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
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| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**36" PRESTRESSED GIRDER DETAILS**

SHEET 11
232

SCALE = 2.00

8

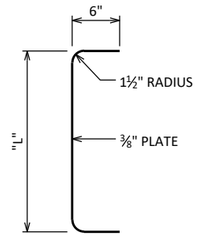
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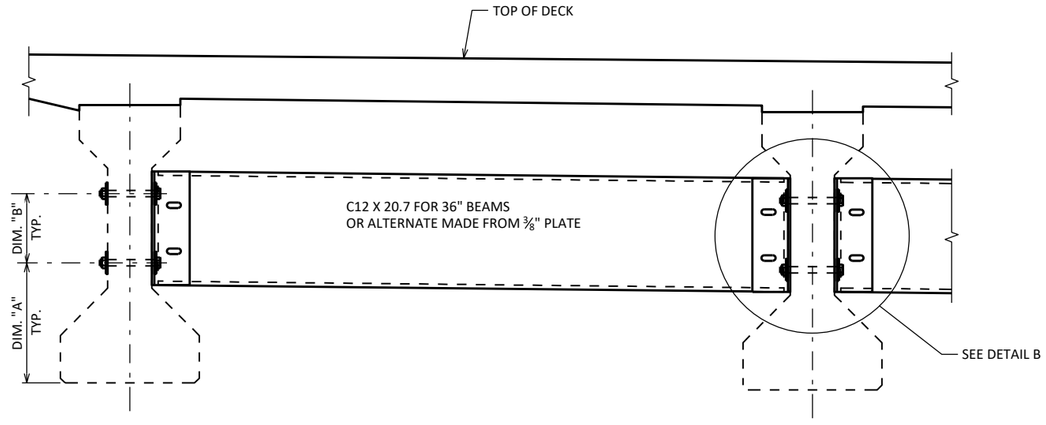
STATE PROJECT NUMBER

**2715-03-73**

## TABLE

| GIRDER HEIGHT | DIM. "A" | DIM. "B" | DIM. "L" | * DIM. "X" |
|---|---|---|---|---|
| 36" | 1'-2⅞" | 9⅞" | 1'-1½" | 3¼" |




**EXTERIOR GIRDER** **INTERIOR GIRDER**

## NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-67-152"

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

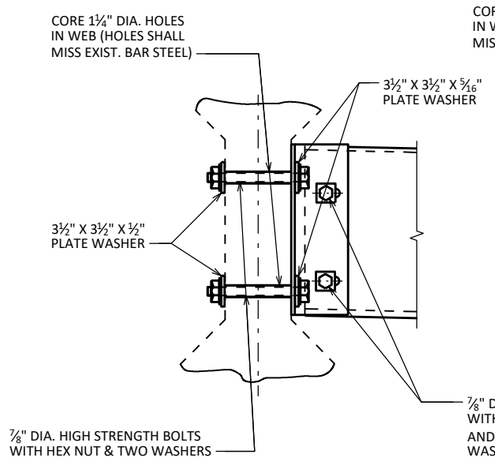
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ⅓ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

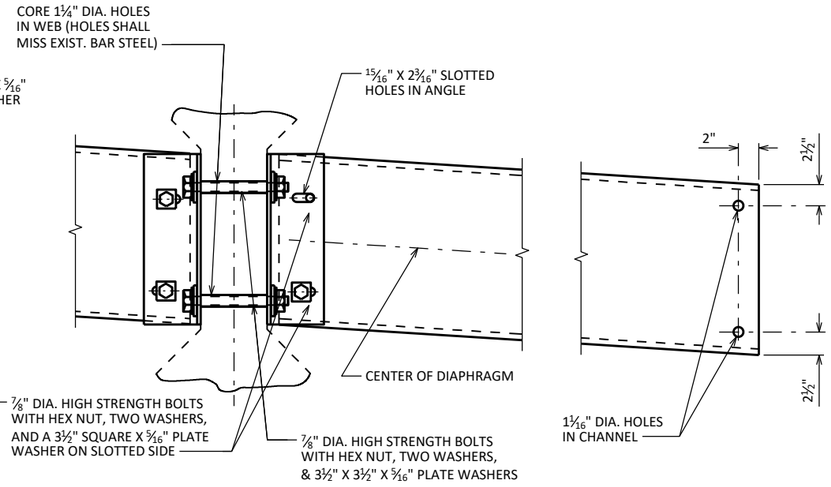
## SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2½" FOR ALTERNATE PLATE DIAPHRAGM




**(FOR EXTERIOR GIRDERS & STAGGERED DIAPHRAGMS)**

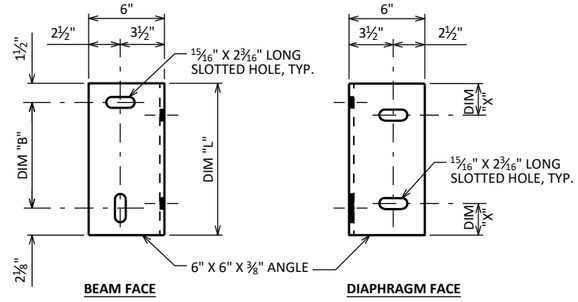
## PART TRANSVERSE SECTION AT DIAPHRAGM





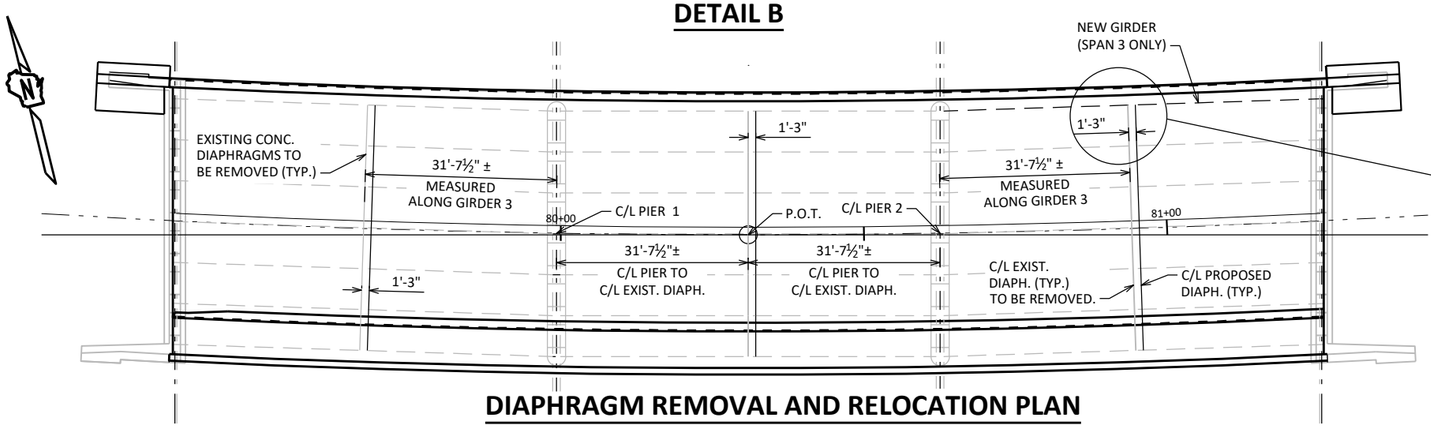


**(FOR CONTINUOUS LINE OF DIAPHRAGMS)**

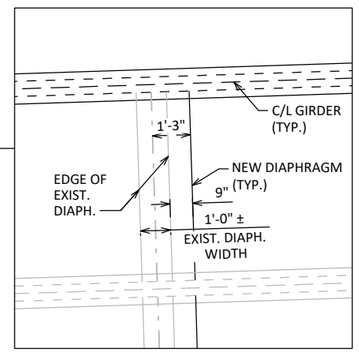



## DIAPHRAGM SUPPORT

## DETAIL B




## DIAPHRAGM REMOVAL AND RELOCATION PLAN




| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**STEEL DIAPHRAGM**

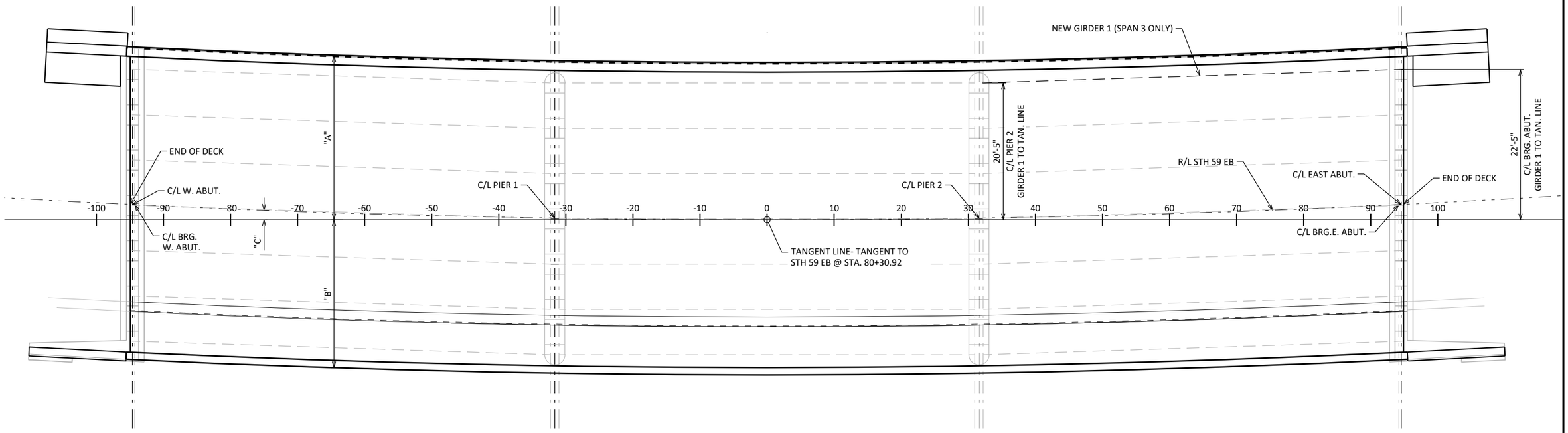
SHEET 12
233

SCALE = 2.00

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8

| STATE PROJECT NUMBER |
|---|
| **2715-03-73** |




## PLAN

10' INTERVALS SHOWN, OFFSET FROM TANGENT LINE TO EDGE OF DECK AND TO REFERENCE LINE.

## TANGENT OFFSET TABLE

| LOCATION | "A" (FT.) | "B" (FT.) | "C" (FT.) |
|---|---|---|---|
| -90 | 25.35 | 21.03 | 2.07 |
| -80 | 24.91 | 21.46 | 1.64 |
| -70 | 24.52 | 21.85 | 1.25 |
| -60 | 24.18 | 22.17 | 0.92 |
| -50 | 23.90 | 22.45 | 0.64 |
| -40 | 23.66 | 22.68 | 0.41 |
| -30 | 23.48 | 22.86 | 0.23 |
| -20 | 23.35 | 22.98 | 0.10 |
| -10 | 23.27 | 23.06 | 0.03 |
| 0 | 23.25 | 23.08 | 0.00 |
| 10 | 23.27 | 23.06 | 0.03 |
| 20 | 23.36 | 22.98 | 0.10 |
| 30 | 23.48 | 22.86 | 0.23 |
| 40 | 23.66 | 22.68 | 0.41 |
| 50 | 23.90 | 22.45 | 0.64 |
| 60 | 24.18 | 22.17 | 0.92 |
| 70 | 24.52 | 21.85 | 1.25 |
| 80 | 24.91 | 21.46 | 1.64 |
| 90 | 25.35 | 21.03 | 2.07 |

8

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

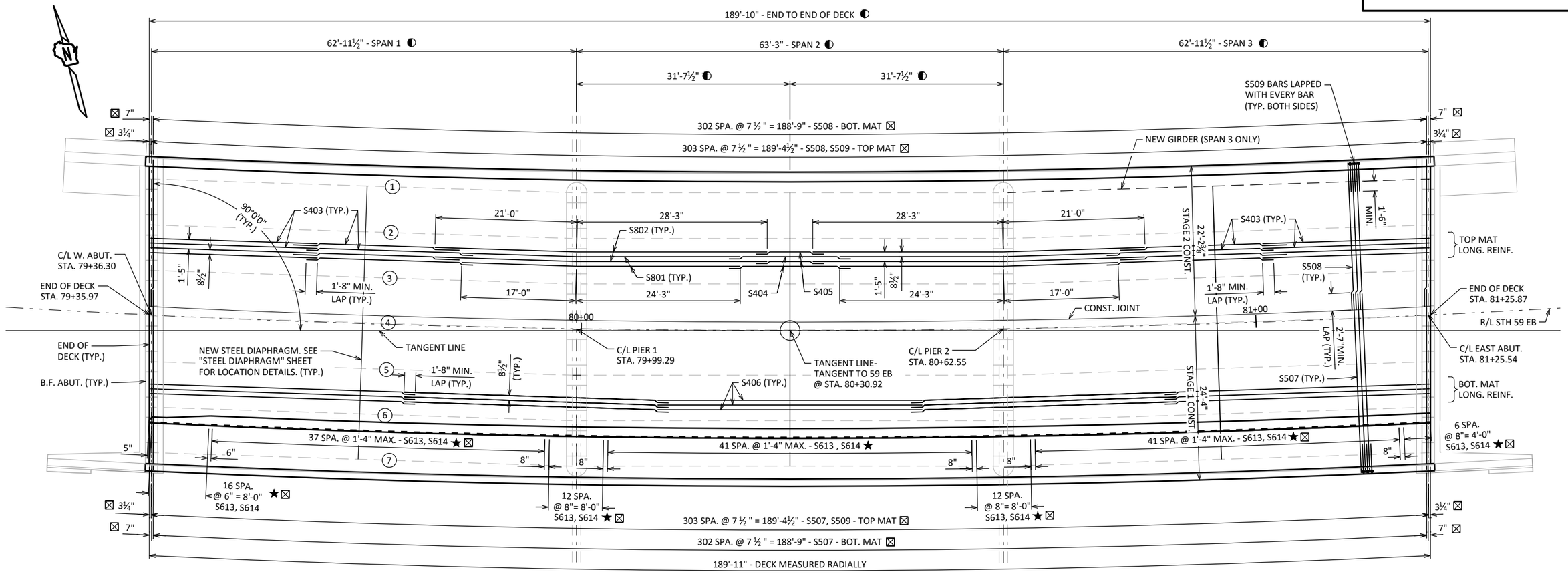
**TANGENT-OFFSET DECK LAYOUT**

SHEET 13
234

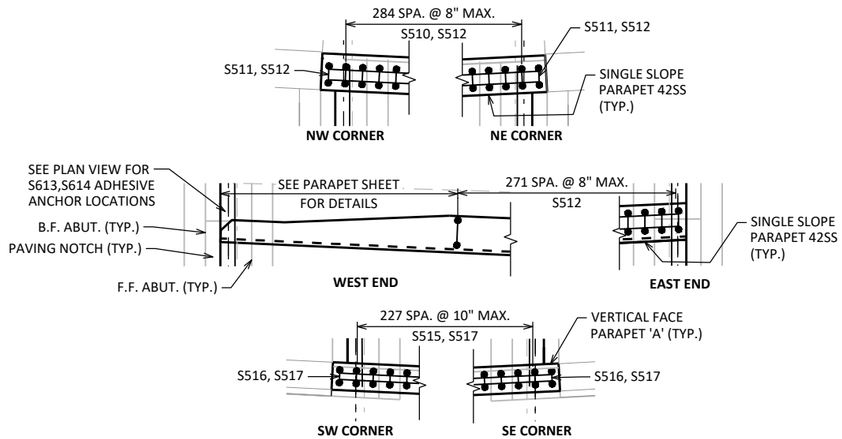
SCALE =

STATE PROJECT NUMBER

**2715-03-73**




## PLAN




## PARAPET CORNER DETAIL

NOT SHOWING DECK REINFORCEMENT FOR CLARITY
NOTE: SEE "FENCING DETAILS" SHEET FOR MORE INFORMATION

◐ MEASURED ALONG TANGENT LINE

★ #6 ADHESIVE ANCHORS EMBED 5 ¼ ". SEE ADD'L DETAILS ON "SUPERSTRUCTURE CROSS SECTION" AND "SINGLE SLOPE PARAPET 42SS" SHEETS

☒ MEASURED RADIALLY. FLARE S507 AND S508 BARS AT END OF DECK AS NECESSARY.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

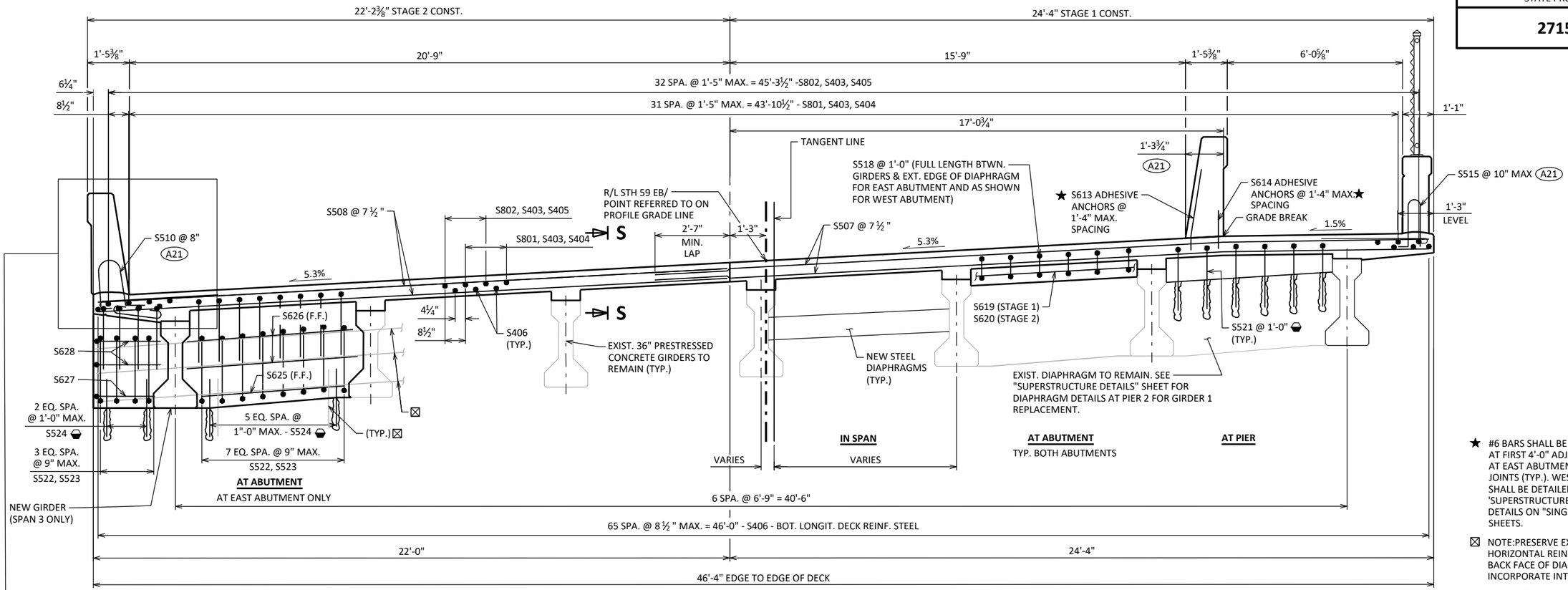
**SUPERSTRUCTURE PLAN**

SHEET 14
235

SCALE =

STATE PROJECT NUMBER

**2715-03-73**




## CROSS SECTION

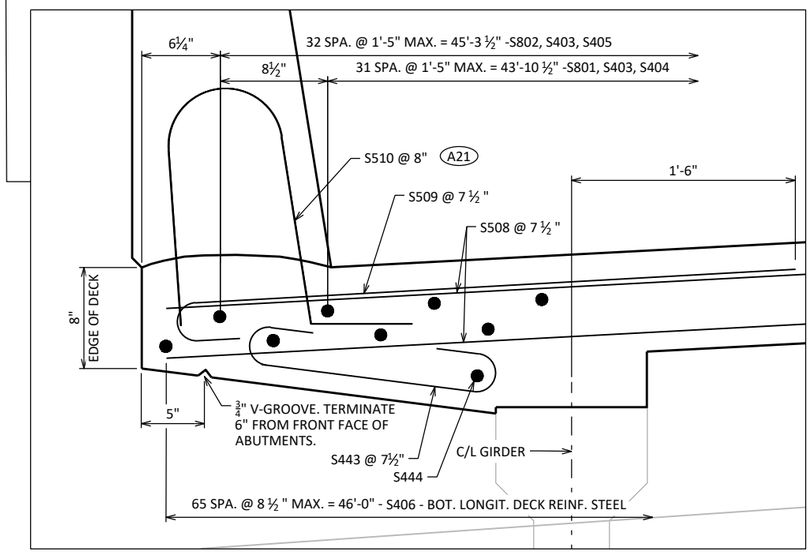
LOOKING UPSTATION

★ #6 BARS SHALL BE INSTALLED @ 8" MAX. SPA. AT FIRST 4'-0" ADJACENT TO PARAPET JOINTS AT EAST ABUTMENT AND CONSTRUCTION JOINTS (TYP.). WEST ABUTMENT SPACING SHALL BE DETAILED AS SHOWN ON 'SUPERSTRUCTURE PLAN' SHEET. SEE ADD'L DETAILS ON "SINGLE SLOPE PARAPET 42SS" SHEETS.

⊠ NOTE:PRESERVE EXISTING HORIZONTAL REINFORCEMENT AT BACK FACE OF DIAPHRAGM. INCORPORATE INTO NEW WORK.

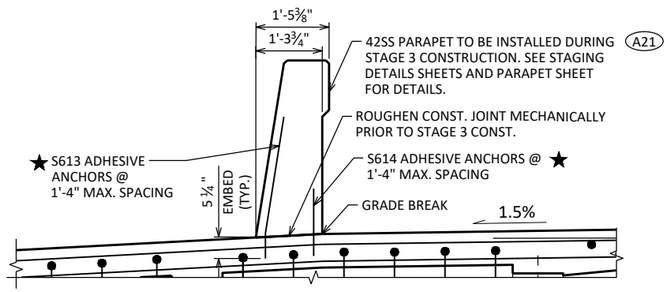
ADHESIVE ANCHORS EMBEDDED 1'-0" INTO EXIST. CONCRETE.

A21 FOR PPT. BARS & DIMENSIONS SEE PPT. SHEET.




## DETAIL IN-SPAN

LOOKING UPSTATION



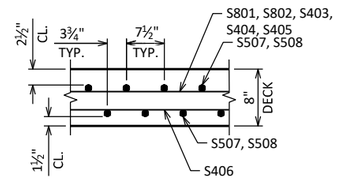

## ADHESIVE ANCHOR CONNECTION

NOTES:

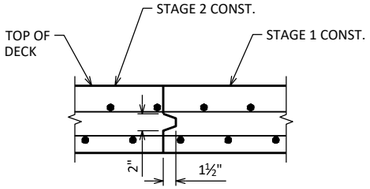
DRILLING OR BURNING THRU DECK REINFORCEMENT SHALL BE PROHIBITED.

PARTIALLY DRILLED HOLES ABANDONED IN THE DECK SHALL BE FILLED WITH NON-SHRINK COMMERCIAL GROUT PER THE APPROVED PRODUCTS LIST.

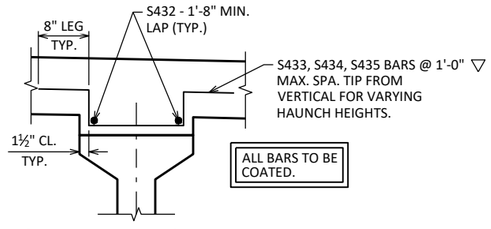
ANCHORS SHALL BE "ADHESIVE ANCHROS NO. 6 BAR". EMBED 5 ¼ " IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS




## SECTION S-S




## SECTION THRU JOINT




## GIRDER HAUNCH DETAIL

FIELD BEND EXISTING STIRRUP BARS AS REQUIRED TO MAINTAIN 2" MIN. CL. (NOT SHOWN- SEE DETAIL ON GIRDER SHEET). DO NOT CUT.

TYP. G1-G7 SPAN 1,2 AND G1-G6 SPAN 3.

▽ PROVIDE S433, S434, S535 AT SAME SPA. AS EXISTING SHEAR STIRRUPS BUT NOT TO EXCEED 1'-0" MAX. SPA.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

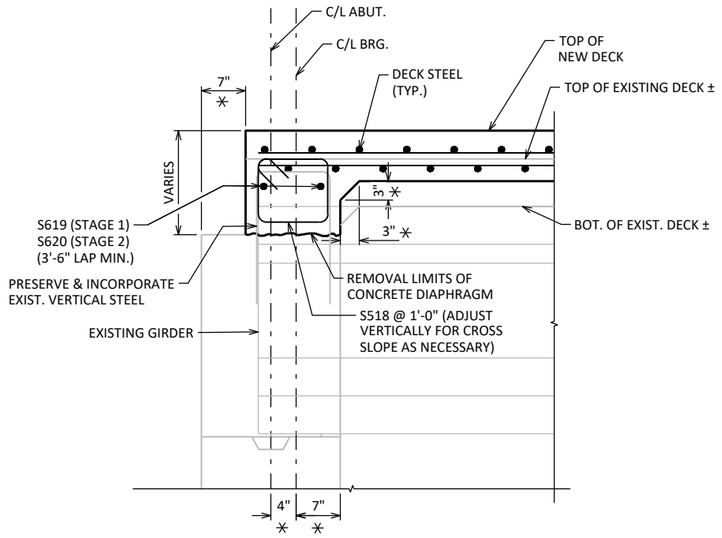
**SUPERSTRUCTURE CROSS SECTION**

SHEET 15
236

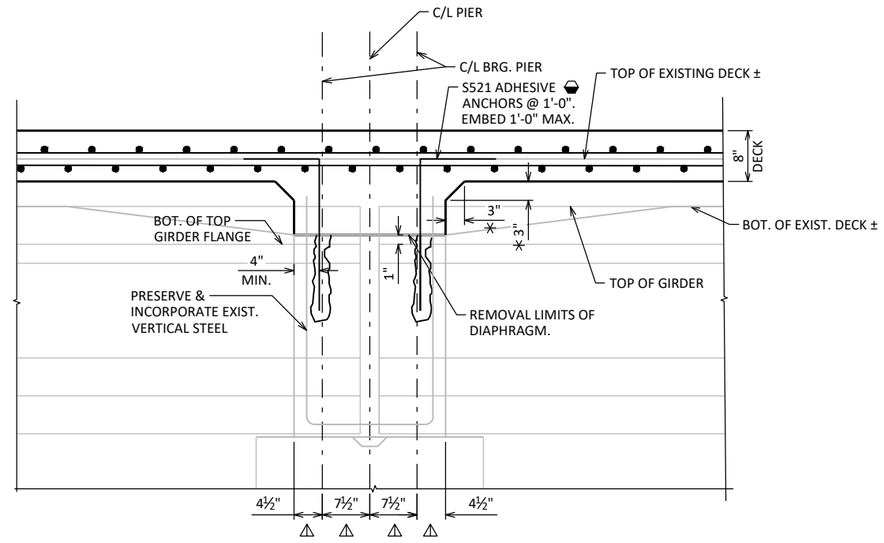
SCALE =

STATE PROJECT NUMBER

**2715-03-73**

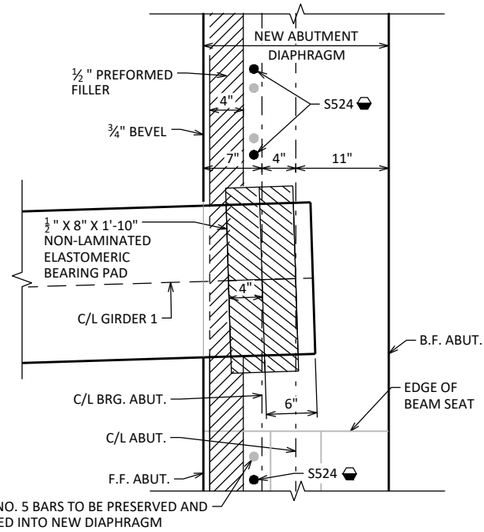



## SECTION THRU ABUT. DIAPH.



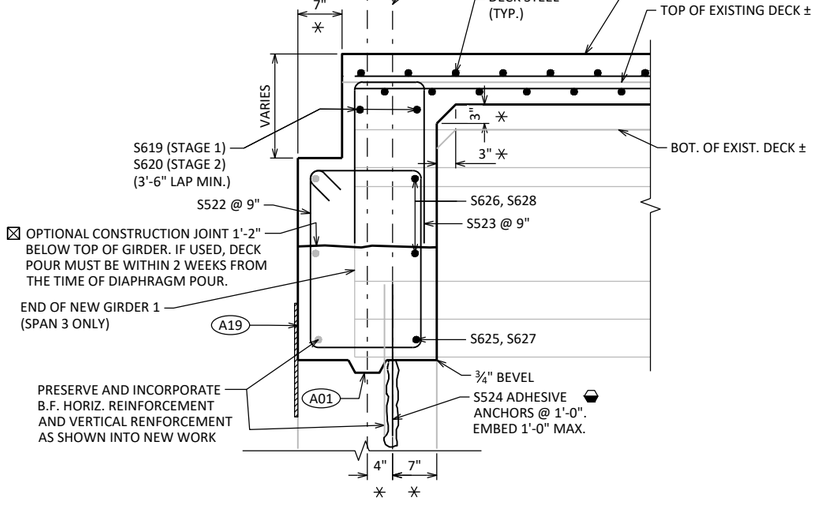

## SECTION THRU PIER DIAPH.

SEE "CROSS SECTION & GENERAL NOTES" SHEET FOR REMOVAL LIMITS



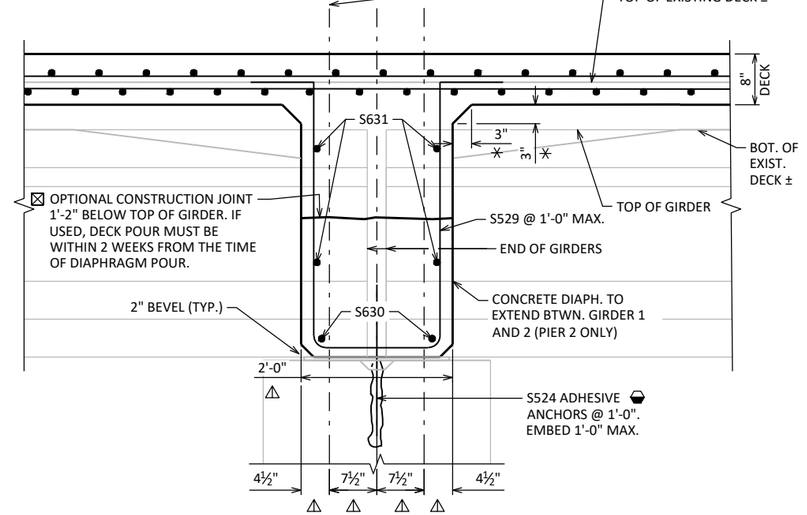

## BEARING PLAN AT E. ABUT.

GIRDER 1 SHOWN



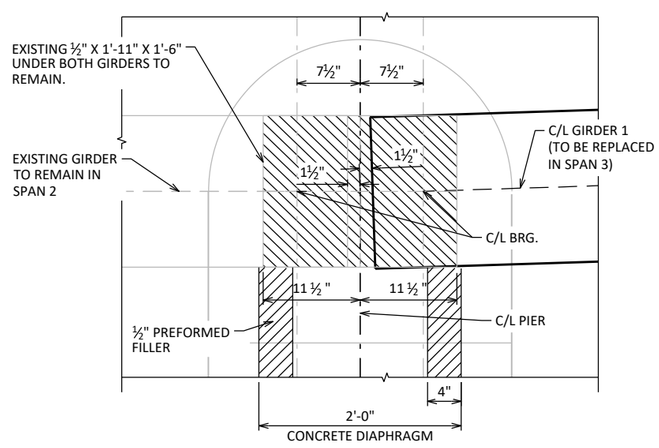

## NEW ABUTMENT DIAPHRAGM

EAST ABUTMENT ONLY (ADJACENT TO GIRDER 1)




## NEW PIER DIAPHRAGM

BETWEEN GIRDER 1 & 2 AT PIER 2 ONLY
SEE "CROSS SECTION & GENERAL NOTES" SHEET FOR REMOVAL LIMITS




## BEARING PAD DETAIL AT PIER 2

(A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

☒ 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. ONLY REQUIRED IF OPT. CONST. JOINT IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES"

✳ DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE UNITS.

⚠ DIMENSION IS TAKEN PARALLEL TO GIRDER

ADHESIVE ANCHORS EMBEDDED 1'-0" INTO EXIST. CONCRETE. TURN LEG AS NECESSARY TO FIT. ANCHORS SHALL BE 2¼ " MIN. CLR. WITH EXISTING BARS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**SUPERSTRUCTURE DETAILS 1**

SHEET 16
237

SCALE =

8

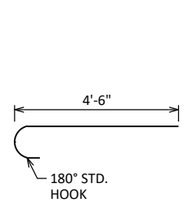
8

# TOP OF DECK ELEVATIONS

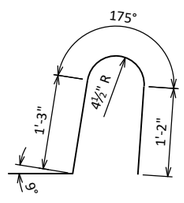
| LOCATION | C/L BRG. W. ABUT. | 1/10 PT. | 2/10 PT. | 3/10 PT. | 4/10 PT. | 5/10 PT. | 6/10 PT. | 7/10 PT. | 8/10 PT. | 9/10 PT. | C/L PIER 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N. EOD | 797.88 | 797.90 | 797.93 | 797.95 | 797.97 | 798.00 | 798.01 | 798.03 | 798.05 | 798.07 | 798.08 |
| N. GUTTER | 797.88 | 797.91 | 797.93 | 797.95 | 797.97 | 798.00 | 798.02 | 798.03 | 798.05 | 798.07 | 798.08 |
| G1 | 797.98 | 798.00 | 798.02 | 798.04 | 798.06 | 798.08 | 798.10 | 798.12 | 798.14 | 798.16 | 798.18 |
| G2 | 798.34 | 798.36 | 798.38 | 798.40 | 798.42 | 798.44 | 798.46 | 798.48 | 798.50 | 798.52 | 798.54 |
| G3 | 798.70 | 798.72 | 798.74 | 798.76 | 798.78 | 798.80 | 798.82 | 798.84 | 798.86 | 798.88 | 798.89 |
| G4 | 799.06 | 799.08 | 799.10 | 799.12 | 799.14 | 799.16 | 799.18 | 799.20 | 799.21 | 799.23 | 799.25 |
| PGL | 799.05 | 799.08 | 799.10 | 799.12 | 799.14 | 799.16 | 799.18 | 799.20 | 799.22 | 799.23 | 799.25 |
| TAN | 799.17 | 799.18 | 799.19 | 799.20 | 799.21 | 799.22 | 799.23 | 799.24 | 799.24 | 799.25 | 799.26 |
| G5 | 799.41 | 799.43 | 799.46 | 799.48 | 799.50 | 799.51 | 799.53 | 799.55 | 799.57 | 799.59 | 799.61 |
| G6 | 799.77 | 799.79 | 799.81 | 799.83 | 799.85 | 799.87 | 799.89 | 799.91 | 799.93 | 799.95 | 799.97 |
| I.F. BARRIER | 799.82 | 799.85 | 799.87 | 799.89 | 799.91 | 799.93 | 799.95 | 799.97 | 799.99 | 800.00 | 800.02 |
| B.F. BARRIER | 799.89 | 799.92 | 799.94 | 799.96 | 799.98 | 800.00 | 800.02 | 800.04 | 800.06 | 800.07 | 800.08 |
| G7 | 799.96 | 799.98 | 800.01 | 800.03 | 800.05 | 800.07 | 800.09 | 800.11 | 800.12 | 800.14 | 800.15 |
| S. GUTTER | 799.98 | 800.01 | 800.03 | 800.05 | 800.07 | 800.09 | 800.11 | 800.13 | 800.15 | 800.16 | 800.18 |
| S. EOD | 799.98 | 800.01 | 800.03 | 800.05 | 800.07 | 800.09 | 800.11 | 800.13 | 800.15 | 800.16 | 800.18 |

| LOCATION | C/L PIER 1 | 1/10 PT. | 2/10 PT. | 3/10 PT. | 4/10 PT. | 5/10 PT. | 6/10 PT. | 7/10 PT. | 8/10 PT. | 9/10 PT. | C/L PIER 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N. EOD | 798.08 | 798.09 | 798.10 | 798.11 | 798.12 | 798.13 | 798.14 | 798.14 | 798.14 | 798.15 | 798.15 |
| N. GUTTER | 798.08 | 798.09 | 798.10 | 798.11 | 798.12 | 798.13 | 798.14 | 798.14 | 798.14 | 798.15 | 798.15 |
| G1 | 798.18 | 798.18 | 798.19 | 798.20 | 798.21 | 798.21 | 798.22 | 798.23 | 798.23 | 798.24 | 798.24 |
| G2 | 798.54 | 798.54 | 798.55 | 798.56 | 798.56 | 798.57 | 798.58 | 798.58 | 798.59 | 798.60 | 798.60 |
| G3 | 798.89 | 798.90 | 798.91 | 798.92 | 798.92 | 798.93 | 798.94 | 798.94 | 798.95 | 798.95 | 798.96 |
| G4 | 799.25 | 799.26 | 799.27 | 799.27 | 799.28 | 799.29 | 799.29 | 799.30 | 799.31 | 799.31 | 799.32 |
| PGL | 799.25 | 799.26 | 799.27 | 799.28 | 799.29 | 799.30 | 799.30 | 799.31 | 799.31 | 799.31 | 799.31 |
| TAN | 799.26 | 799.27 | 799.27 | 799.28 | 799.29 | 799.30 | 799.30 | 799.31 | 799.32 | 799.32 | 799.33 |
| G5 | 799.61 | 799.62 | 799.62 | 799.63 | 799.64 | 799.64 | 799.65 | 799.66 | 799.66 | 799.67 | 799.68 |
| G6 | 799.97 | 799.97 | 799.98 | 799.99 | 800.00 | 800.00 | 800.01 | 800.02 | 800.02 | 800.03 | 800.03 |
| I.F. BARRIER | 800.02 | 800.03 | 800.04 | 800.05 | 800.06 | 800.06 | 800.07 | 800.08 | 800.08 | 800.08 | 800.08 |
| B.F. BARRIER | 800.08 | 800.10 | 800.11 | 800.12 | 800.13 | 800.13 | 800.14 | 800.14 | 800.15 | 800.15 | 800.15 |
| G7 | 800.15 | 800.16 | 800.17 | 800.18 | 800.19 | 800.20 | 800.20 | 800.21 | 800.21 | 800.22 | 800.22 |
| S. GUTTER | 800.18 | 800.19 | 800.20 | 800.21 | 800.22 | 800.22 | 800.23 | 800.24 | 800.24 | 800.24 | 800.24 |
| S. EOD | 800.18 | 800.19 | 800.20 | 800.21 | 800.22 | 800.22 | 800.23 | 800.24 | 800.24 | 800.24 | 800.24 |

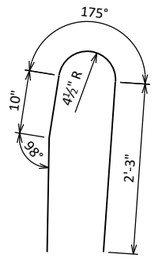
| LOCATION | C/L PIER 2 | 1/10 PT. | 2/10 PT. | 3/10 PT. | 4/10 PT. | 5/10 PT. | 6/10 PT. | 7/10 PT. | 8/10 PT. | 9/10 PT. | C/L BRG. E. ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N. EOD | 798.15 | 798.15 | 798.14 | 798.14 | 798.14 | 798.13 | 798.12 | 798.12 | 798.11 | 798.09 | 798.08 |
| N. GUTTER | 798.15 | 798.15 | 798.14 | 798.14 | 798.14 | 798.13 | 798.12 | 798.12 | 798.11 | 798.09 | 798.08 |
| G1 | 798.24 | 798.24 | 798.24 | 798.23 | 798.22 | 798.22 | 798.21 | 798.20 | 798.20 | 798.19 | 798.18 |
| G2 | 798.60 | 798.60 | 798.59 | 798.59 | 798.58 | 798.58 | 798.57 | 798.56 | 798.56 | 798.55 | 798.54 |
| G3 | 798.96 | 798.96 | 798.95 | 798.94 | 798.94 | 798.93 | 798.93 | 798.92 | 798.91 | 798.91 | 798.90 |
| G4 | 799.32 | 799.31 | 799.31 | 799.30 | 799.30 | 799.29 | 799.28 | 799.28 | 799.27 | 799.26 | 799.26 |
| PGL | 799.31 | 799.31 | 799.31 | 799.31 | 799.30 | 799.30 | 799.29 | 799.28 | 799.27 | 799.26 | 799.25 |
| TAN | 799.33 | 799.33 | 799.34 | 799.34 | 799.35 | 799.36 | 799.36 | 799.36 | 799.36 | 799.37 | 799.37 |
| G5 | 799.68 | 799.67 | 799.67 | 799.66 | 799.65 | 799.65 | 799.64 | 799.64 | 799.63 | 799.62 | 799.62 |
| G6 | 800.03 | 800.03 | 800.02 | 800.02 | 800.01 | 800.01 | 800.00 | 799.99 | 799.99 | 799.98 | 799.97 |
| I.F. BARRIER | 800.08 | 800.08 | 800.08 | 800.08 | 800.07 | 800.07 | 800.06 | 800.05 | 800.04 | 800.03 | 800.02 |
| B.F. BARRIER | 800.15 | 800.15 | 800.15 | 800.15 | 800.14 | 800.14 | 800.13 | 800.12 | 800.11 | 800.10 | 800.09 |
| G7 | 800.22 | 800.22 | 800.22 | 800.21 | 800.21 | 800.20 | 800.19 | 800.19 | 800.18 | 800.17 | 800.16 |
| S. GUTTER | 800.24 | 800.24 | 800.24 | 800.24 | 800.23 | 800.23 | 800.22 | 800.21 | 800.20 | 800.19 | 800.18 |
| S. EOD | 800.24 | 800.24 | 800.24 | 800.24 | 800.23 | 800.23 | 800.22 | 800.21 | 800.20 | 800.19 | 800.18 |



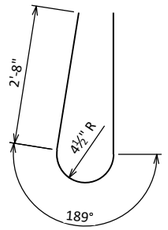
S509



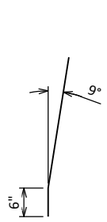
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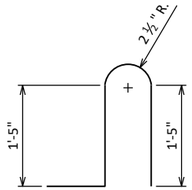
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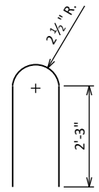
S512



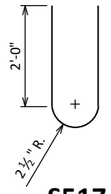
S613



S515



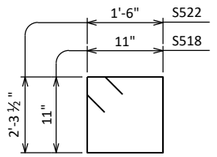
S516



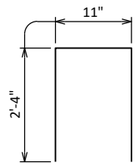
S517



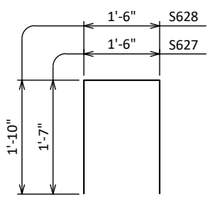
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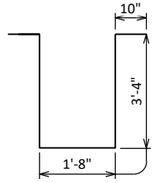
S518, S522



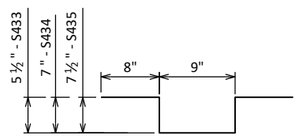
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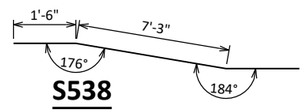
S627, S628



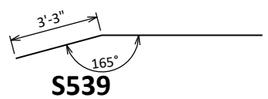
S529



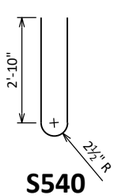
S433, S434, S435



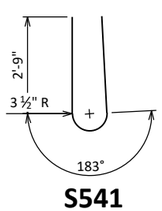
S538



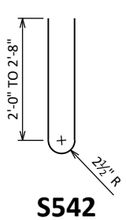
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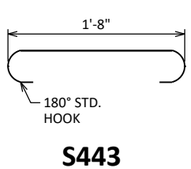
S540



S541



S542



S443

# BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| | BAR MARK | COAT | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|
| | S801 | X | 64 | 41'-3" | | | DECK - LONGIT.-TOP-OVER PIERS |
| | S802 | X | 66 | 49'-3" | | | DECK - LONGIT.-TOP-OVER PIERS |
| | S403 | X | 260 | 24'-9" | | | DECK - LONGIT.-TOP- SPAN 1, 3 |
| | S404 | X | 32 | 18'-1" | | | DECK - LONGIT.-TOP- SPAN 2 |
| | S405 | X | 33 | 10'-1" | | | DECK - LONGIT.-TOP- SPAN 2 |
| | S406 | X | 330 | 39'-3" | | | DECK - LONGIT.-BOT. |
| | S507 | X | 607 | 26'-11" | | | DECK - TRANS. - TOP/BOT. STAGE 1 CONST. |
| | S508 | X | 607 | 21'-10" | | | DECK - TRANS. - TOP/BOT. STAGE 2 CONST. |
| | S509 | X | 608 | 5'-1" | X | | DECK - TRANS. - TOP OVERHANG |
| | S510 | X | 285 | 4'-5" | X | | DECK/42SSPPT. -VERT. |
| | S511 | X | 2 | 5'-10" | X | | DECK/42SSPPT. -VERT. - @ ABUT. CORNERS |
| | S512 | X | 557 | 6'-8" | X | | PARAPET 42SS @ DECK - VERT. |
| ★ | S613 | X | 172 | 2'-10" | X | | DECK/42SSPPT. - VERT. - ANCHOR F.F. |
| ★ | S614 | X | 172 | 1'-4" | | | DECK/42SSPPT. - VERT. - ANCHOR B.F. |
| | S515 | X | 230 | 4'-4" | X | | DECK/PPT. TYPE A - VERT. |
| | S516 | X | 2 | 5'-1" | X | | DECK/PPT. TYPE A - VERT. - @ ABUT. CORNERS |
| | S517 | X | 230 | 4'-9" | X | | PARAPET TYPE A @ DECK - VERT. |
| | S518 | X | 75 | 4'-4" | X | | PAVING NOTCH-STIRRUP-VERT. |
| | S619 | X | 4 | 27'-11" | | | DECK - TRANS. - ABUT. DIAPH. - STAGE 1 |
| | S620 | X | 4 | 21'-9" | | | DECK - TRANS. - ABUT. DIAPH. - STAGE 2 |
| △ | S521 | X | 132 | 3'-0" | X | | PIERS - VERT. ADHESIVE ANCHORS |
| | S522 | X | 12 | 8'-3" | X | | ABUTMENT DIAPHRAGM - STIRRUP |
| | S523 | X | 12 | 5'-4" | X | | ABUTMENT DIAPHRAGM/PAVING NOTCH - VERT. |
| △ | S524 | X | 15 | 2'-0" | | | ABUT./PIER DIAPHRAGM/BODY - ANCHOR |
| | S625 | X | 1 | 4'-11" | | | ABUT. DIAPH. F.F. - HORIZ. BTWN. GIRDERS - BOT. |
| | S626 | X | 2 | 5'-5" | | | ABUT. DIAPH. F.F.- HORIZ. BTWN. GIRDERS |
| | S627 | X | 1 | 4'-4" | X | | ABUT. DIAPH. - HORIZ. EXT. GIRDER - BOT. |
| | S628 | X | 2 | 4'-10" | X | | ABUT. DIAPH. - HORIZ. EXT. GIRDER |
| | S529 | X | 6 | 9'-6" | X | | PIER DIAPHRAGM - VERT. |
| | S630 | X | 2 | 4'-11" | | | PIER DIAPH. - HORIZ. BTWN. GIRDERS - BOT. |
| | S631 | X | 4 | 5'-5" | | | PIER DIAPH. - HORIZ. BTWN. GIRDERS |
| | S432 | X | 70 | 38'-2" | | | GIRDER HAUNCH - LONGIT. |
| | S433 | X | 280 | 2'-8" | X | | HAUNCH-HAT BAR -SPAN 1-3 - G7 |
| | S434 | X | 516 | 2'-11" | X | | HAUNCH-HAT BAR -SPAN 1 - G1-G6 |
| | S435 | X | 1078 | 3'-0" | X | | HAUNCH-HAT BAR -SPAN 2 G1-G6, SPAN 3 G2-G6 |
| | S536 | X | 61 | 49'-1" | | | 42SS PPT. - HORIZ. |
| | S537 | X | 32 | 49'-1" | | | PPT. TYPE A - HORIZ. - SOUTH END |
| | S538 | X | 1 | 49'-1" | X | | 42SS PPT. - HORIZ. - TRANSITION END |
| | S539 | X | 2 | 49'-1" | X | | 42SS PPT. - HORIZ. - TRANSITION END |
| | S540 | X | 5 | 6'-5" | X | | 42SS PPT. - VERT. - TRANSITION END |
| | S541 | X | 6 | 6'-6" | X | | 42SS PPT. - VERT. - TRANSITION END |
| | S542 | X | 6 | 5'-5" | X | ⚠ | 42SS PPT. - VERT. - TRANSITION END |
| | S443 | X | 303 | 2'-8" | X | | DECK - EXT. OVERHANG - BOT. TRANS.- N. END |
| | S444 | X | 5 | 39'-3" | | | DECK - EXT. OVERHANG - BOT. LONGIT. N. END |

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

## BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

| | | |
|---|---|---|
| S542 | 1 SERIES OF 6 | 4'-9" TO 6'-1" |

★ ADHESIVE ANCHORS EMBEDDED 5 ¼ " INTO CONCRETE. SEE DETAILS ON "SUPERSTRUCTURE PLAN" AND "SUPERSTRUCTURE CROSS SECTION" SHEETS.

△ ADHESIVE ANCHORS EMBEDDED 1'-0" INTO EXIST. CONCRETE.

STATE PROJECT NUMBER

2715-03-73

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**SUPERSTRUCTURE DETAILS 2**

SHEET 17
238

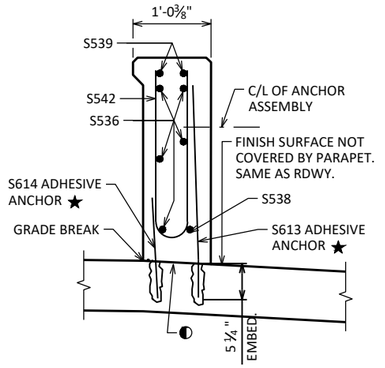
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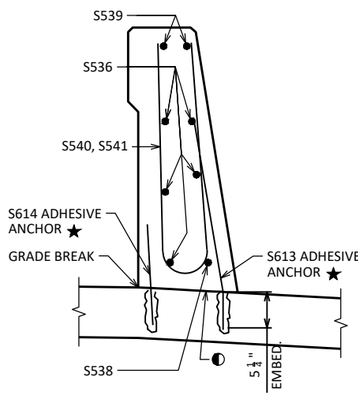
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STATE PROJECT NUMBER

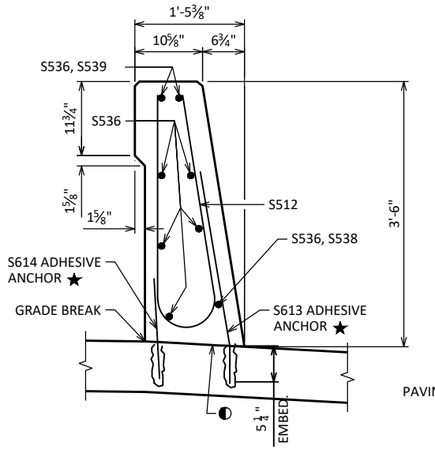
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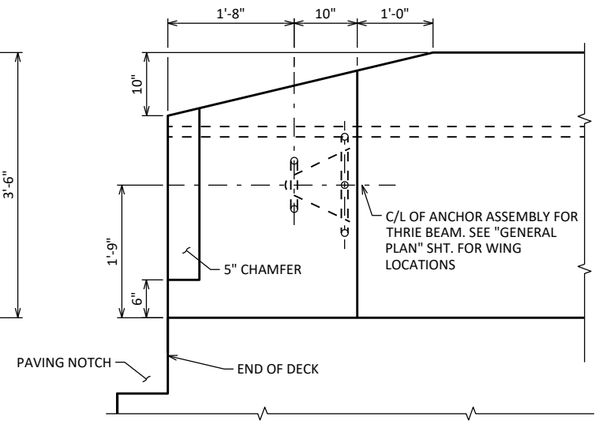

## SECTION A-A




## SECTION B-B

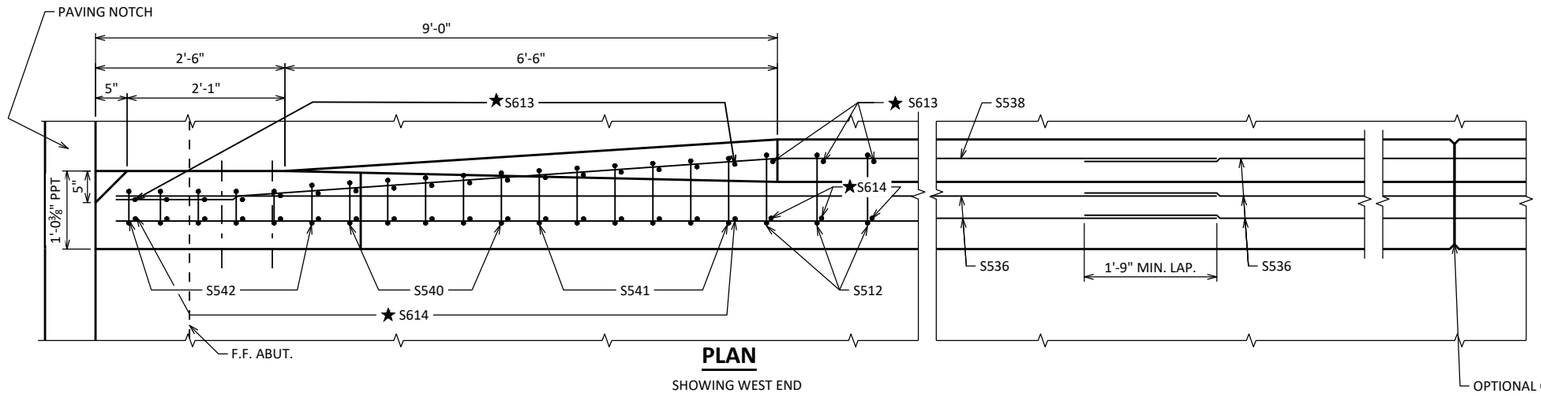



## SECTION C-C




## PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

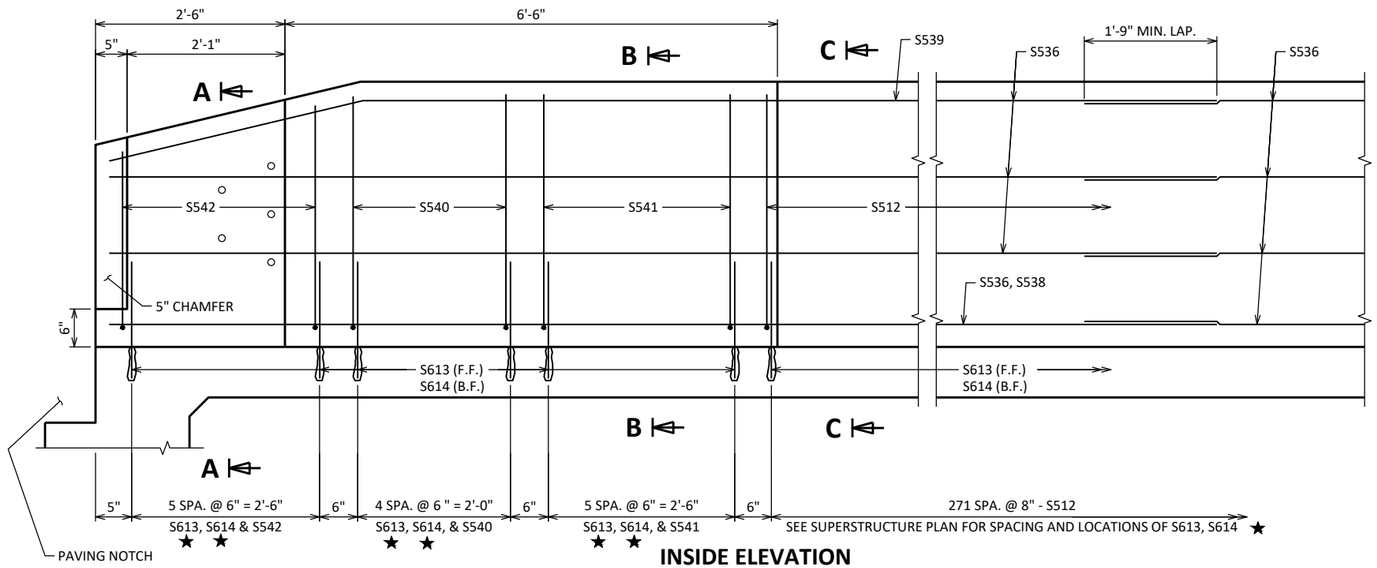



## PLAN

SHOWING WEST END

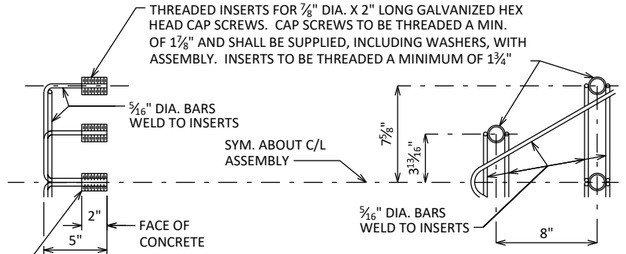
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE

S613/S614 SHALL BE INSTALLED @ 8" MAX. SPA. AT FIRST 4'-0" ADJACENT TO PARAPET JOINTS AT ABUTMENTS, EXPANSION JOINTS, AND CONSTRUCTION JOINTS (TYP.)




## INSIDE ELEVATION

SHOWING WEST END




## DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NOTES: DRILLING OR BURNING THRU DECK REINFORCEMENT SHALL BE PROHIBITED.

◐ CONST. JOINT - STRIKE OFF AS SHOWN. ROUGHEN CONST. JOINT MECHANICALLY PRIOR TO STAGE 3 CONST.

★ ADHESIVE ANCHOR EMBED 5 ¼". ROTATE S613 BARS THROUGH TRANSITION AREA AS NECESSARY FOR FITMENT. SEE "SUPERSTRUCTURE PLAN" AND "SUPERSTRUCTURE CROSS SECTION" SHEETS FOR ADDITIONAL DETAILS AND PLACEMENT INFO.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**SINGLE SLOPE PARAPET 42SS SOUTH SIDE**

SHEET 18
239

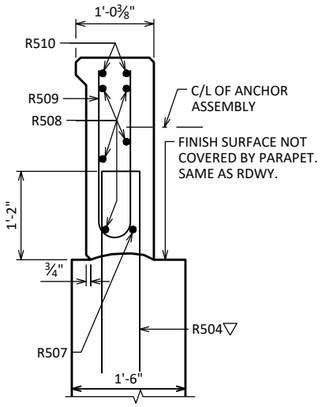
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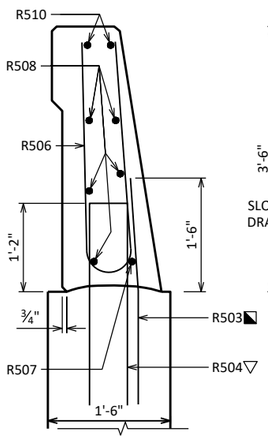
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STATE PROJECT NUMBER

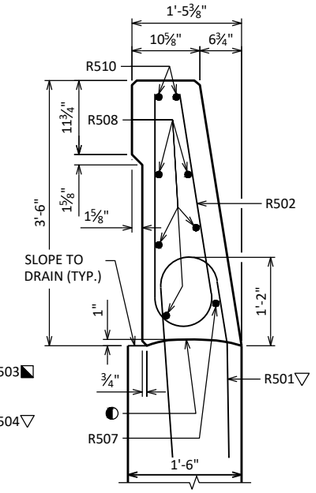
**2715-03-73**



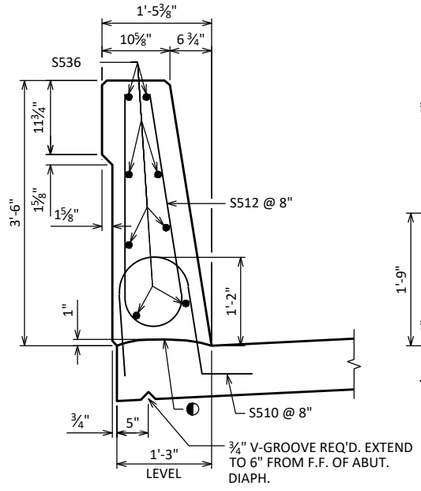

## SECTION A-A



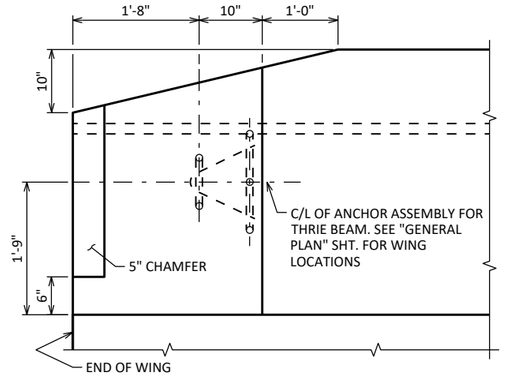

## SECTION B-B




## SECTION C-C




## SECTION THRU PARAPET ON DECK




## PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

## BILL OF BARS

FOR WING PARAPETS

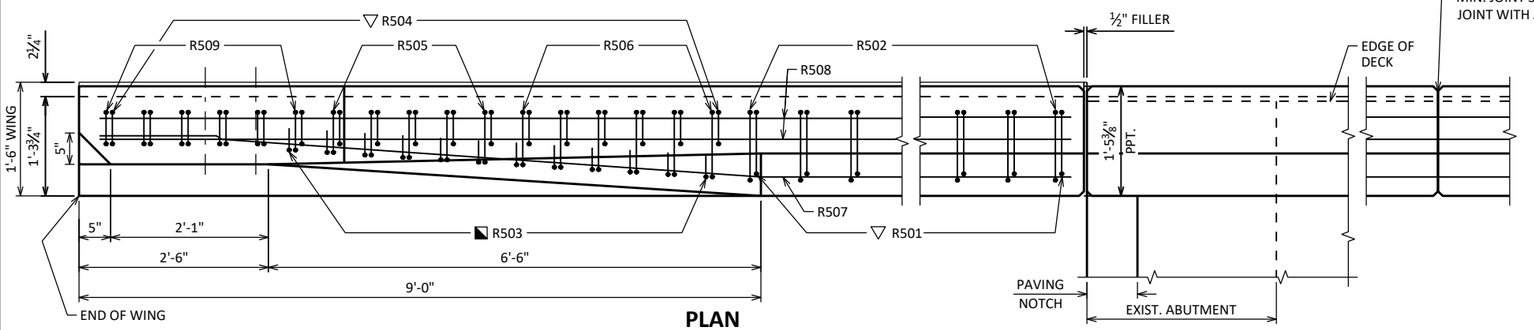
| BAR MARK | COAT | SUB1 | SUB2 | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|
| R501 | X | 6 | 6 | 5'-10" | X | | PARAPET VERT. |
| R502 | X | 6 | 6 | 6'-8" | X | | PARAPET VERT. |
| R503 | X | 24 | 24 | 3'-0" | X | | PARAPET VERT. |
| R504 | X | 34 | 34 | 5'-7" | X | | PARAPET VERT. |
| R505 | X | 10 | 10 | 6'-5" | X | | PARAPET VERT. |
| R506 | X | 12 | 12 | 6'-6" | X | | PARAPET VERT. |
| R507 | X | 2 | 2 | 11'-8" | X | | PARAPET HORIZ. |
| R508 | X | 10 | 10 | 11'-8" | | | PARAPET HORIZ. |
| R509 | X | 12 | 12 | 5'-5" | X | ⚠ | PARAPET VERT. |
| R510 | X | 4 | 4 | 11'-8" | X | | PARAPET HORIZ. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

## BAR SERIES TABLE

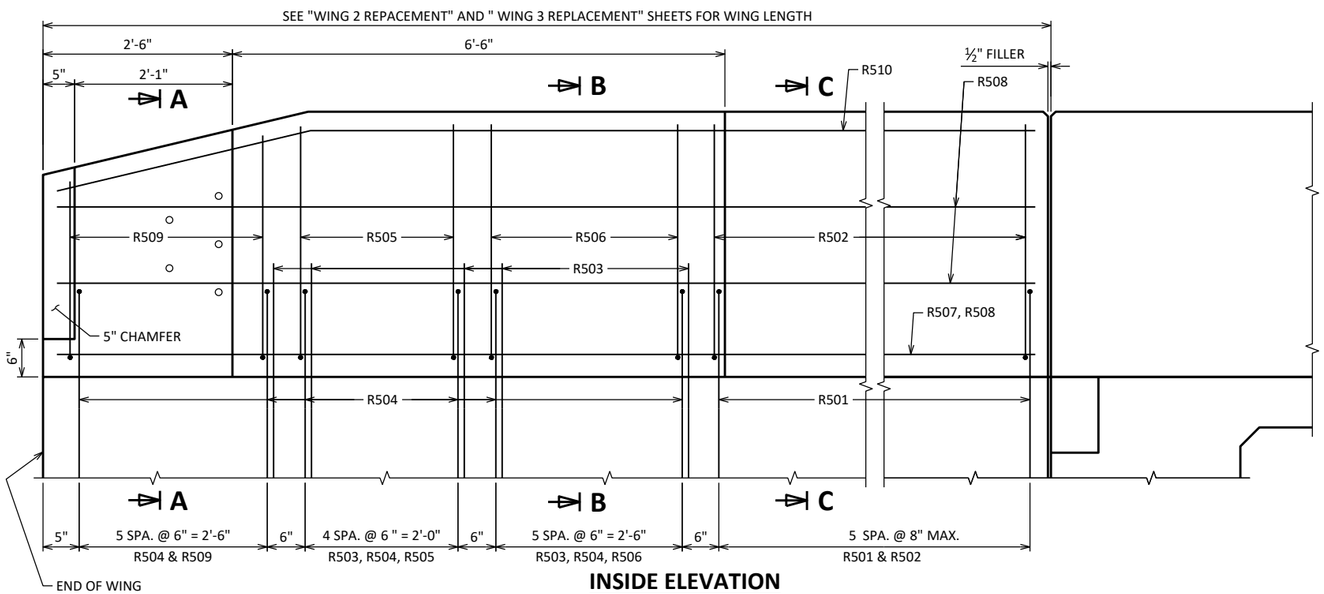
BUNDLE AND TAG EACH SERIES SEPARATELY.

| BAR MARK | NO. REQ'D. | LENGTH |
|---|---|---|
| R509 | 4 SERIES OF 6 | 4'-9" TO 6'-1" |



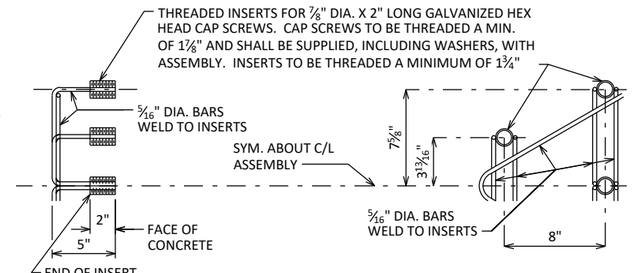

## PLAN

NW CORNER SHOWN, NE CORNER SHOWN SIMILAR




## INSIDE ELEVATION

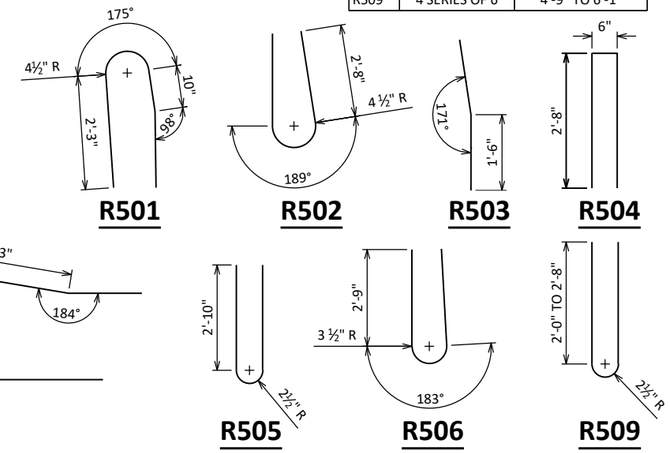
NW CORNER SHOWN, NE CORNER SHOWN SIMILAR




## DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.




- ◐ CONST. JOINT - STRIKE OFF AS SHOWN
- ◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**SINGLE SLOPE PARAPET 42SS NORTH SIDE**

SHEET 19
240

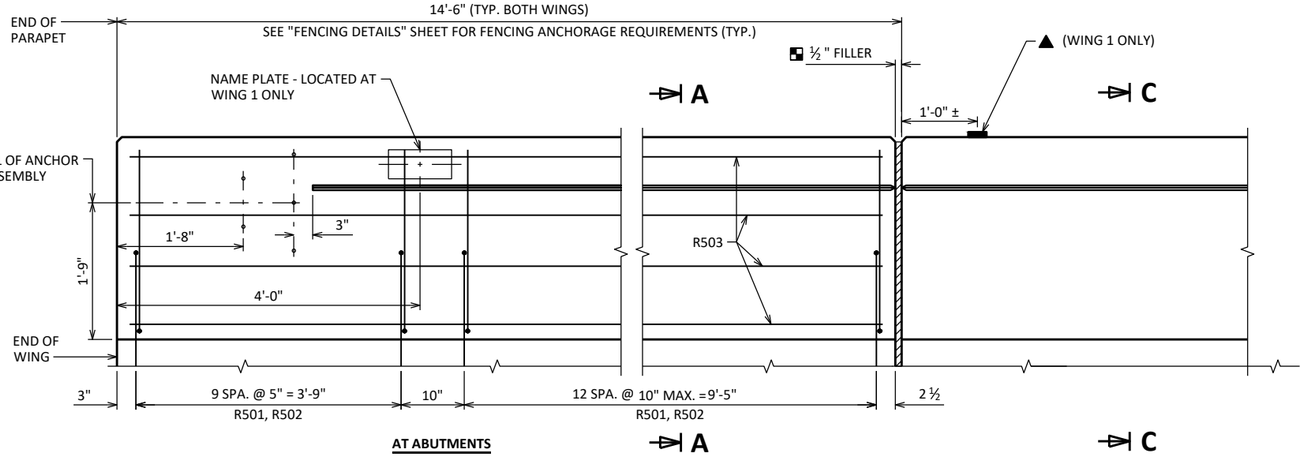
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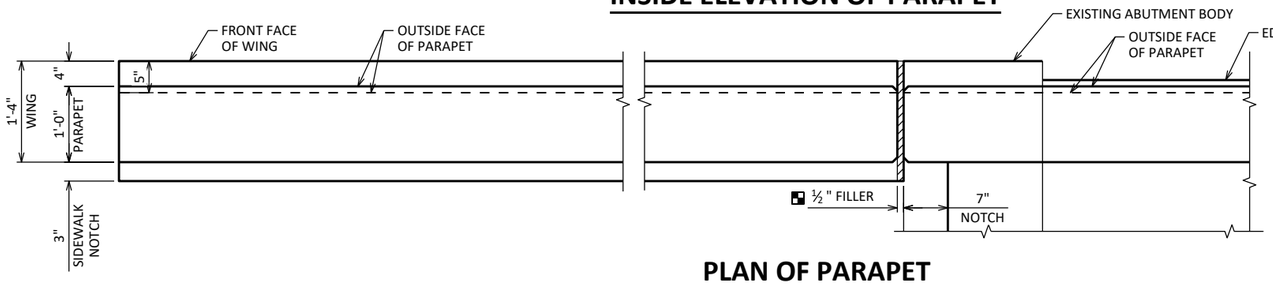
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STATE PROJECT NUMBER

**2715-03-73**

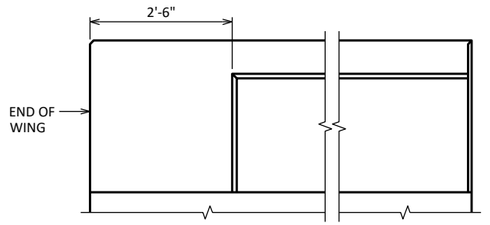



## INSIDE ELEVATION OF PARAPET

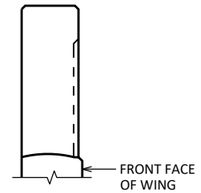



## PLAN OF PARAPET

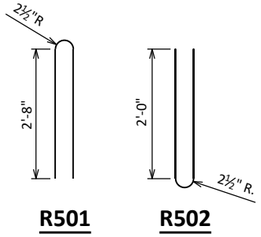
WING 4 SHOWN. WING 1 SIMILAR.




## OUTSIDE FACE OF PARAPET




## END VIEW




**R501** **R502**

## BILL OF BARS

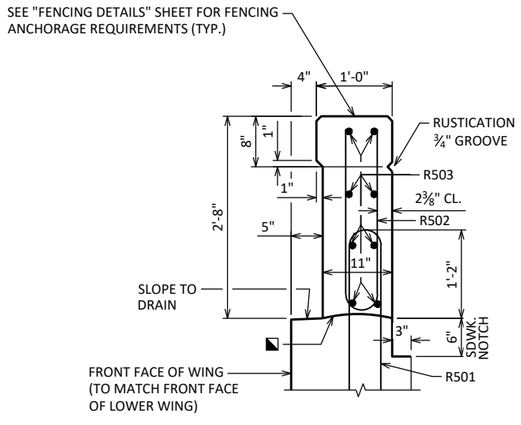
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| R501 | X | 46 | 6'-1" | X | | PARAPET VERT. WING 1 & 4 |
| R502 | X | 46 | 4'-9" | X | | PARAPET VERT. WING 1 & 4 |
| R503 | X | 16 | 14'-2" | | | PARAPET HORIZ. WING 1 & 4 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

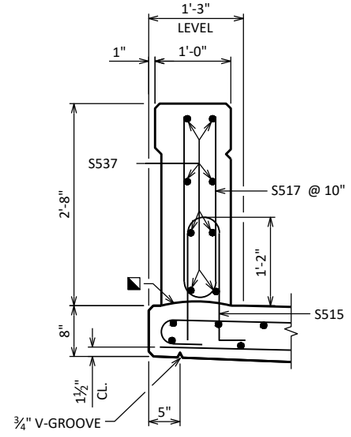
CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH.

BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.



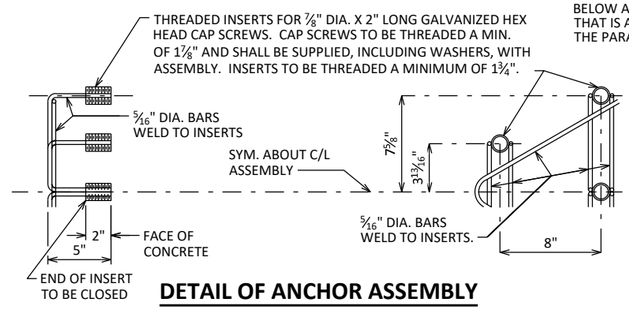

## SECTION A-A

SHOWING SECTION ON WING LOOKING WEST (DOWNSTATION)




## SECTION C-C

SHOWING SECTION ON DECK LOOKING WEST (DOWNSTATION)




## DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**VERTICAL FACE PARAPET "A"**

SHEET 20
241

SCALE = 2.00

8

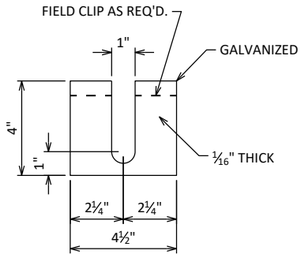
8

STATE PROJECT NUMBER

**2715-03-73**

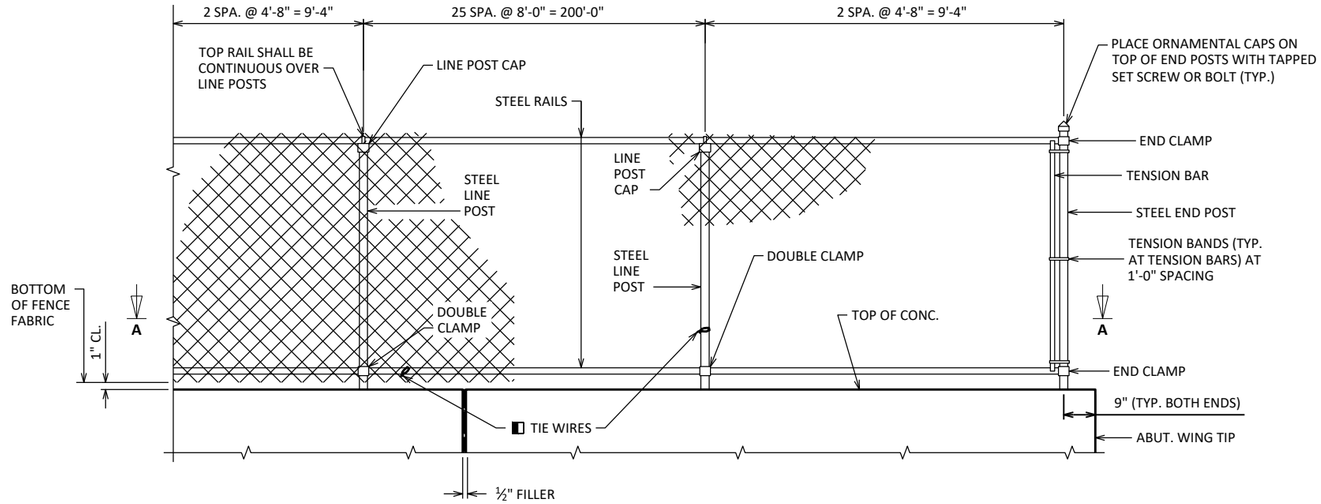
## FENCE MEMBER SIZE & WEIGHT

| STEEL FENCE MEMBER | OUTSIDE DIAMETER (INCHES) | WEIGHT (LB/FT) |
|---|---|---|
| RAILS | 1.660 | 2.27 |
| END POST | 2.875 | 5.80 |
| OVERHANG POST | 2.875 | 5.80 |
| LINE POST | 2.375 | 3.65 |
| POST SLEEVE | 4.000 | 9.12 |

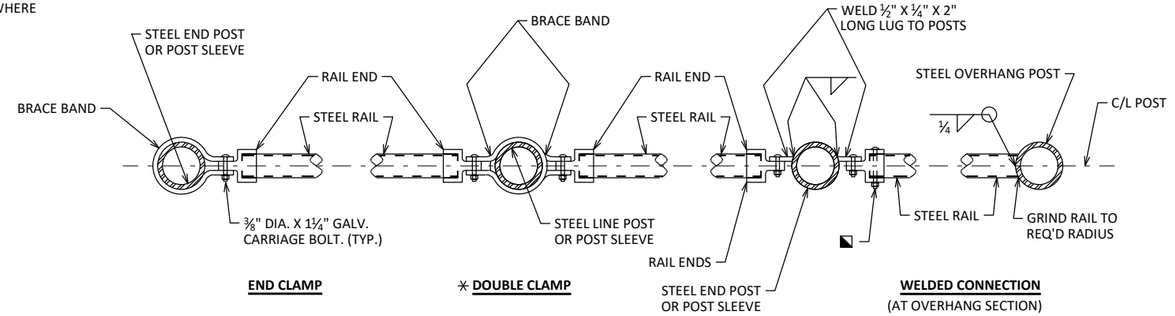



## POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.

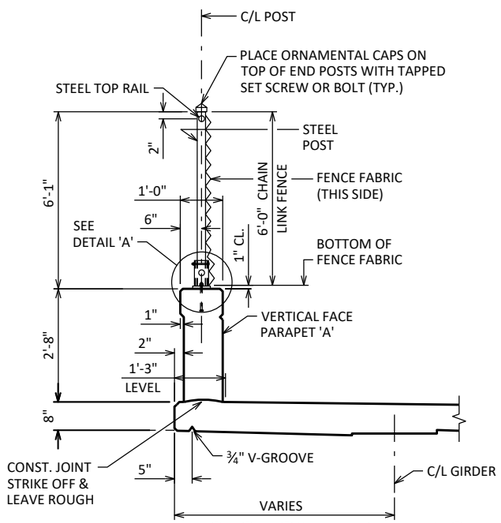



## FENCE PART ELEVATION

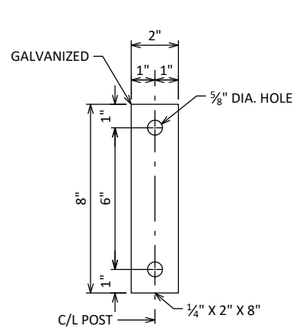



## SECTION A-A

NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS

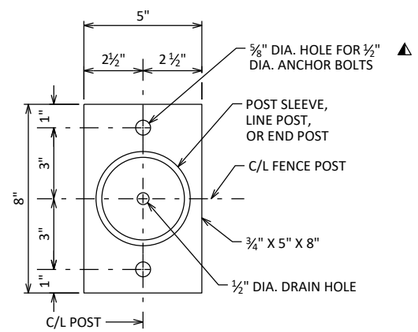



## SECTION THRU FENCE

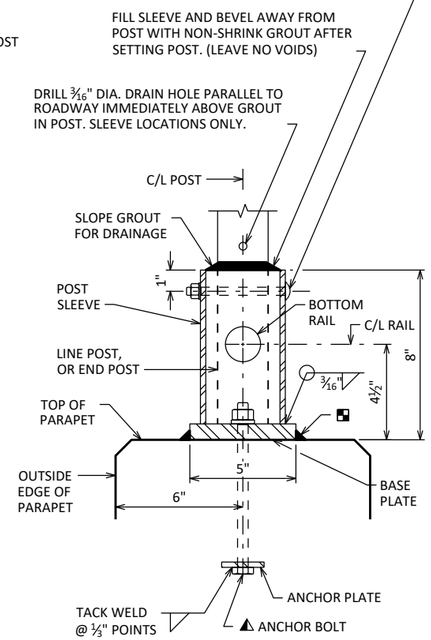



## ANCHOR PLATE

☆ NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.




## BASE PLATE




## DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

## NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL, EXCEPT THE FENCE FABRIC WHICH MAY BE ALUMINUM-COATED STEEL OR GALVANIZED STEEL.

FABRIC SHALL CONFORM TO ASTM A491 OR A392, CLASS 2. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626.

THE BID ITEM SHALL BE "FENCE CHAIN LINK 6 - FT."

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

▪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

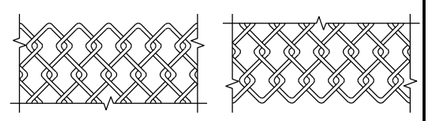
◭ ½" DIA. X 6⅞" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. ☆

☆ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS ½-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS.

◧ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

◪ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR ¼ POINT OF POST SPACING.



**TOP DETAIL** **BOTTOM DETAIL**

## FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**FENCING DETAILS**

SHEET 21
242

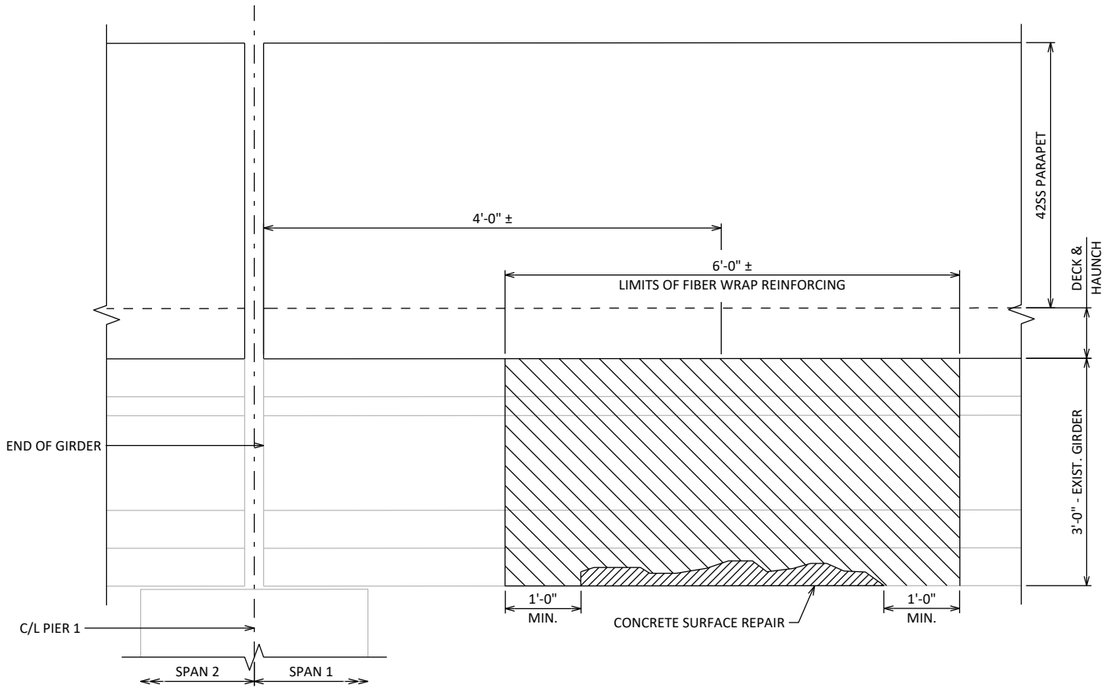
SCALE = 10.7

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8

STATE PROJECT NUMBER

**2715-03-73**




## GIRDER ELEVATION

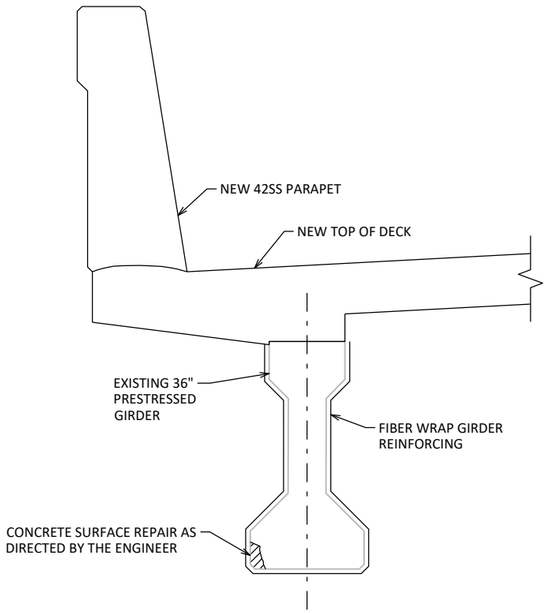
SHOWING GIRDER 1 IN SPAN 1 NEAR PIER 1. LOOKING SOUTH.
LOCATION IS APPROXIMATE- EXTENTS SHALL BE DETERMINED BY FIELD ENGINEER.

## GIRDER REPAIR NOTES

WORK PERFORMED FOR GIRDER END REPAIR SHALL BE INCLUDED IN THE BID ITEMS "CONCRETE SURFACE REPIAR" AND "FIBER WRAP REINFORCING NON-STRUCTURAL".

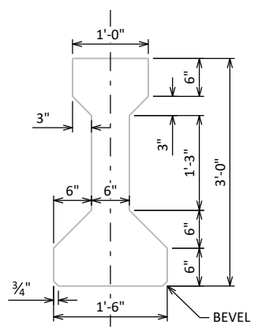
PERFORM "CONCRETE SURFACE REPAIR" PRIOR TO INSTALLATION OF "FIBER WRAP REINFORCING NON-STRUCTURAL" AS DIRECTED BY THE FIELD ENGINEER AT THE LOCATIONS INDICATED ON THIS SHEET.

FIBER WRAP GIRDER REINFORCING SHALL BE IN ACCORDANCE WITH THE "FIBER WRAP REINFORCING NON-STRUCTURAL" SPECIAL PROVISION. APPLY FIBER WRAP AFTER CASTING NEW DECK AND DIAPHRAGMS.




## SECTION A-A

SHOWING TYPICAL REPAIR LIMITS




## SECTION THRU GIRDER

SHOWING EXISTING DIMENSIONS

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-152**

DRAWN BY DLM | PLANS CK'D RRH

**GIRDER REPAIR**

SHEET 22
243

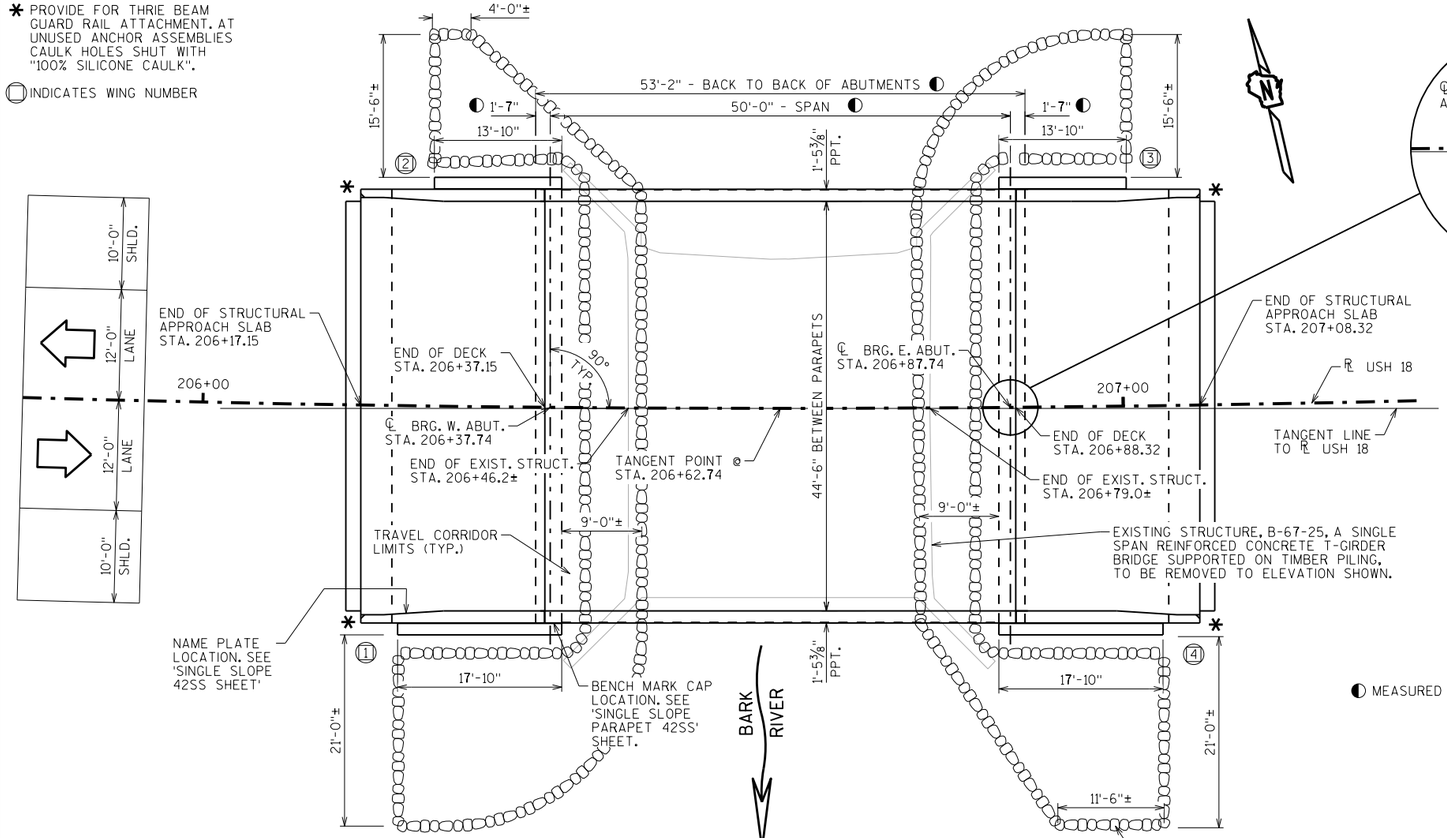
SCALE =

STATE PROJECT NUMBER

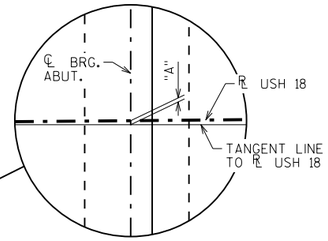
2715-03-73

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

(1) INDICATES WING NUMBER




◐ MEASURED ALONG TANGENT LINE




## OFFSET TABLE

| | WEST ABUT. | EAST ABUT. |
|---|---|---|
| "A" | 1¼" | 1¼" |

## DESIGN DATA

**LIVE LOAD:**

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.19
OPERATING RATING FACTOR: RF = 1.55
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250(KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

**MATERIAL PROPERTIES:**

CONCRETE MASONRY:
SUPERSTRUCTURE & STRUCTURAL APPROACH SLAB — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 — fy = 60,000 P.S.I.
STAINLESS, GRADE 60 — fy = 60,000 P.S.I.

## FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON CAST-IN-PLACE (CIP) 10¾" DIA. X 0.365" WALL CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 130 FEET LONG AT WEST ABUTMENT, AND 150 FEET LONG AT EAST ABUTMENT.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

## HYDRAULIC DATA

**100 YEAR FREQUENCY**

$Q_{100}$ = 742 C.F.S.
VEL.$_{100}$ = 4.6 F.P.S.
HW.$_{100}$ = EL. 850.69
WATERWAY AREA = 161 SQ. FT.
DRAINAGE AREA = 66.1 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

**2 YEAR FREQUENCY**

$Q_2$ = 275 C.F.S.
VEL.$_2$ = 2.9 F.P.S.
HW.$_2$ = EL. 848.96

## TRAFFIC VOLUME

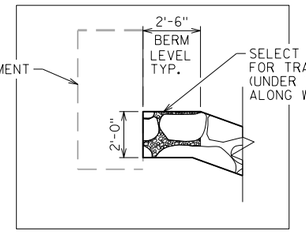
**USH 18**

ADT = 7,400 (2044)
R.D.S. = 60 M.P.H.

## CURVE DATA

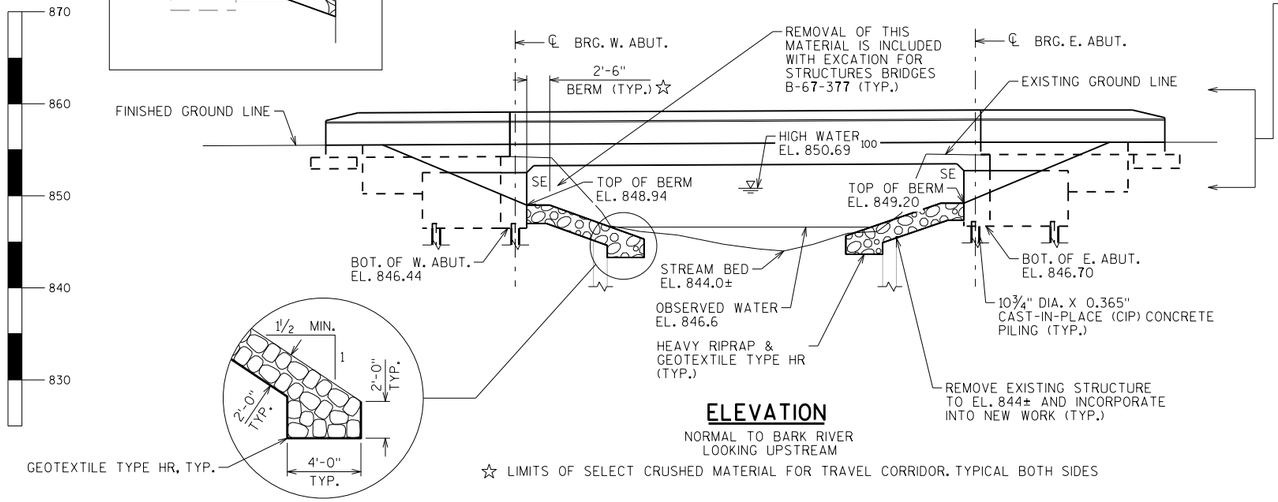
**USH 18**

P.I. = 206+67.40
△ = 48°29'03"
D = 2°00'04"
T = 1289.32
L = 2422.90'
R = 2863.25'
S.E. = 4.6%
P.C. = 193+78.08
P.T. = 218+00.98




## PLAN

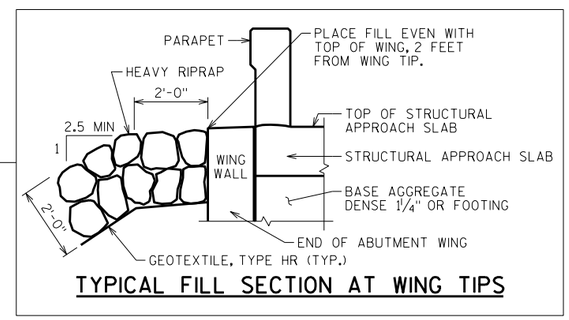
SINGLE SPAN FLAT SLAB




## ELEVATION

NORMAL TO BARK RIVER
LOOKING UPSTREAM

☆ LIMITS OF SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR. TYPICAL BOTH SIDES




## TYPICAL FILL SECTION AT WING TIPS

## LIST OF DRAWINGS


1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. STRUCTURAL APPROACH SLAB
11. SINGLE SLOPE PARAPET 42SS



**STRUCTURE DESIGN CONTACTS:**

ISATOU CEESAY (608) 266-9557
KYLE BUSCH (608) 267-0465


| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

BUREAU OF STRUCTURES

ACCEPTED KHB 3/10/23
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-67-377

USH 18 OVER BARK RIVER

| COUNTY | VILLAGE |
|---|---|
| WAUKESHA | SUMMIT |

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGNED CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| IFC | BH | IFC | WAH |

GENERAL PLAN

SHEET 1 OF 11

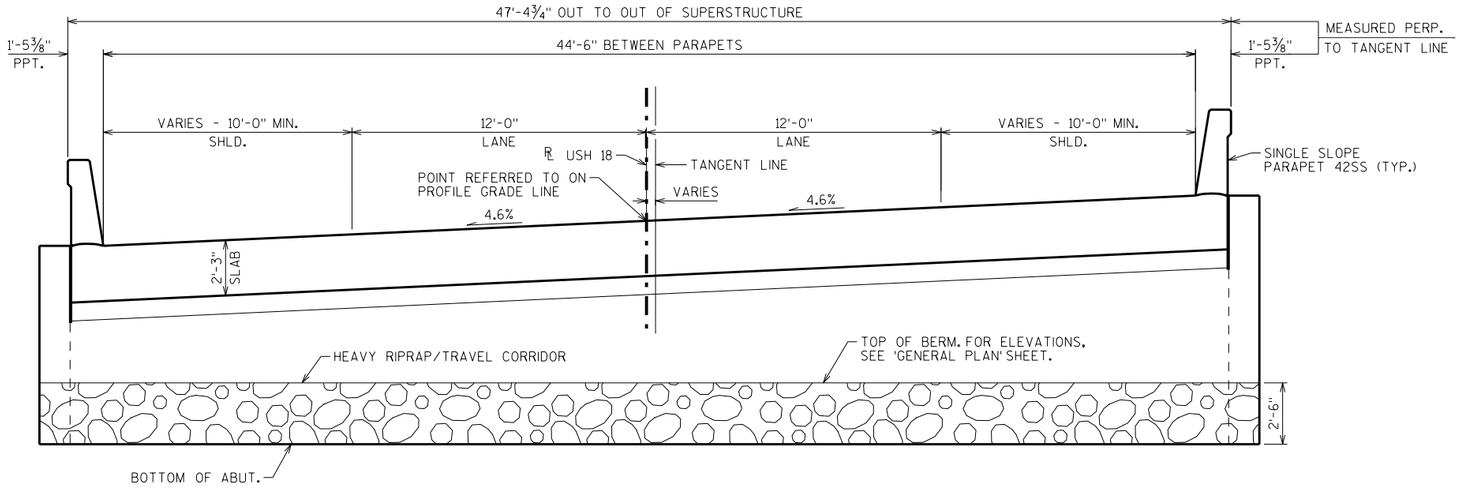
244

I.D. 2715-03-03B DATE: MAR. 2023

SCALE = 8.00

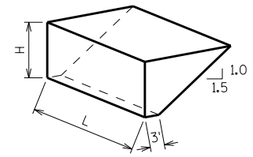
8

8




## CROSS SECTION THRU ROADWAY

(LOOKING EAST)




## ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
$V_{CF}$ = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
$V_{CY}$ = $V_{CF}$ (EF)/27
$V_{TON}$ = $V_{CY}$ (2.0)

## TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | SUPER. | W. STRUCT. APP. SLAB | WEST ABUT. | EAST ABUT. | E. STRUCT. APP. SLAB | TOTALS |
|---|---|---|---|---|---|---|---|---|
| 203.0270 | REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-67-25 | EACH | ——— | ——— | ——— | ——— | ——— | 1 |
| 206.1001 | EXCAVATION FOR STRUCTURES BRIDGES B-67-377 | EACH | ——— | ——— | ——— | ——— | ——— | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | ——— | ——— | 140 | 140 | ——— | 280 |
| 305.0120 | BASE AGGREGATE DENSE 1 1/4-INCH | TON | ——— | 142 | ——— | ——— | 142 | 284 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 226.7 | 64.9 | 50.4 | 50.4 | 64.9 | 458 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 280 | 100 | ——— | ——— | 100 | 480 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 51 | 20 | ——— | ——— | 20 | 91 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | ——— | ——— | 3,690 | 3,690 | ——— | 7,380 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 42,260 | 9,895 | 1,710 | 1,710 | 9,895 | 65,470 |
| 505.0800.S | BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES | LB | 420 | ——— | ——— | ——— | ——— | 420 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | ——— | ——— | 12 | 12 | ——— | 24 |
| 550.2106 | PILING CIP CONCRETE 10¾ X 0.365-INCH | LF | ——— | ——— | 1560 | 1800 | ——— | 3360 |
| 606.0300 | RIPRAP HEAVY | CY | ——— | ——— | 100 | 100 | ——— | 200 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | ——— | ——— | 85 | 85 | ——— | 170 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | ——— | 2 | ——— | ——— | 2 | 4 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | ——— | ——— | 48 | 48 | ——— | 96 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | ——— | ——— | 156 | 156 | ——— | 312 |
| SPV.0195 | SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR | TON | ——— | ——— | 11 | 11 | ——— | 22 |
| | | | | | | | | |
| | | | | | | | | |
| | NON-BID ITEMS | | | | | | | |
| | | | | | | | | |
| | FILLER | SIZE | ——— | ——— | ——— | ——— | ——— | ½", ¾", 1½" |
| | | | | | | | | |

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-67-377" SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

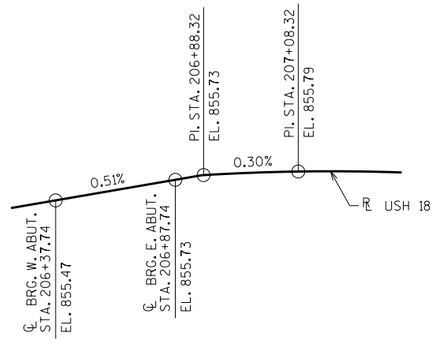
PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.

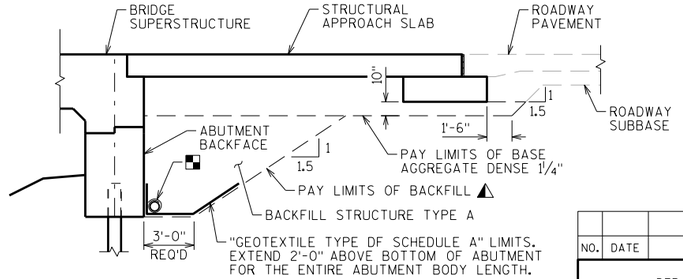
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.




## PROFILE GRADE LINE - USH 18




## TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

▪ PIPE UNDERDRAIN WRAPPED (6 INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

STATE PROJECT NUMBER

2715-03-73

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

DRAWN BY IFC | PLANS CK'D. WAH

CROSS SECTION & QUANTITIES

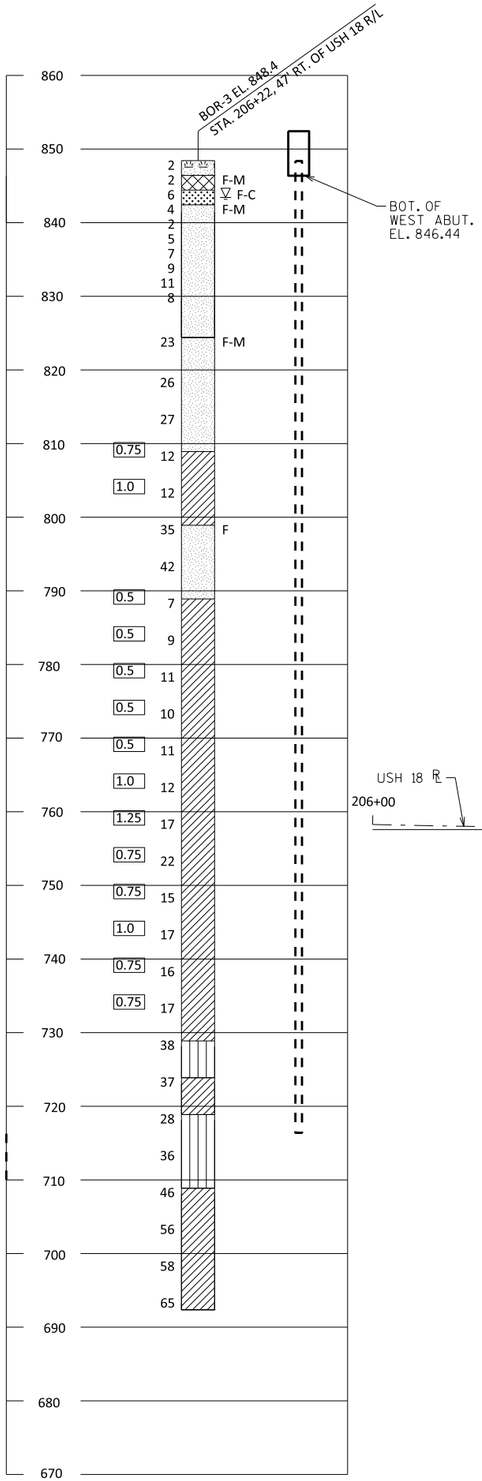
SHEET 2

245

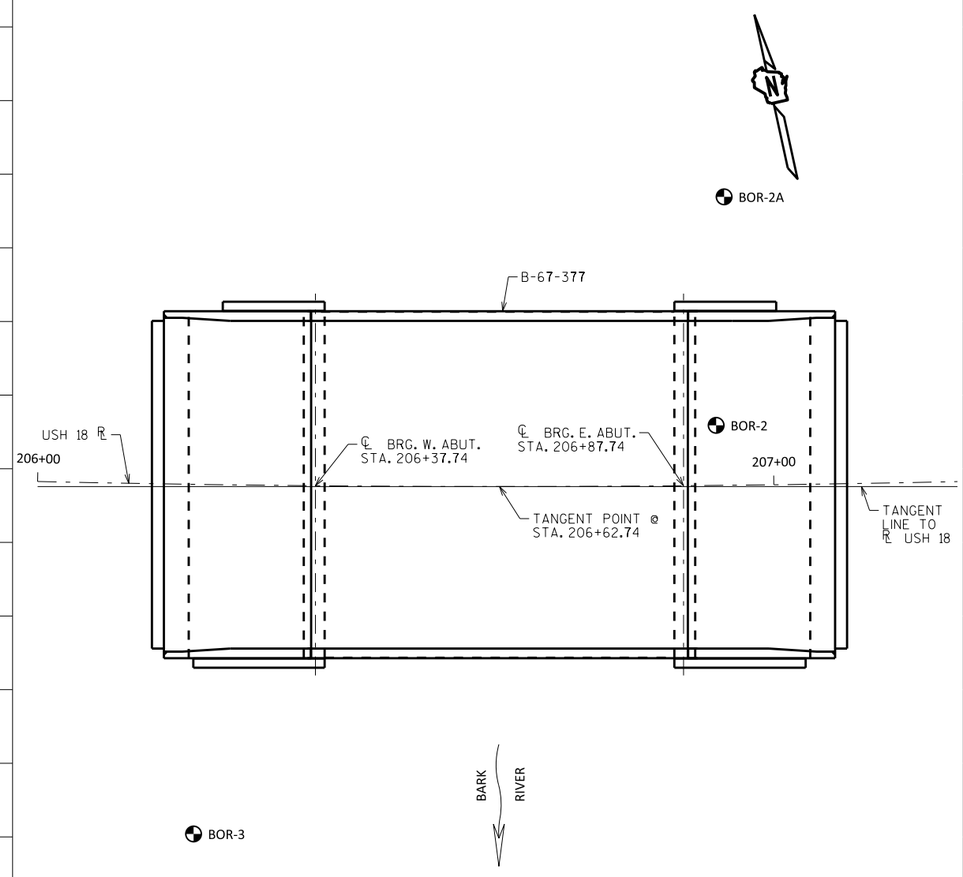
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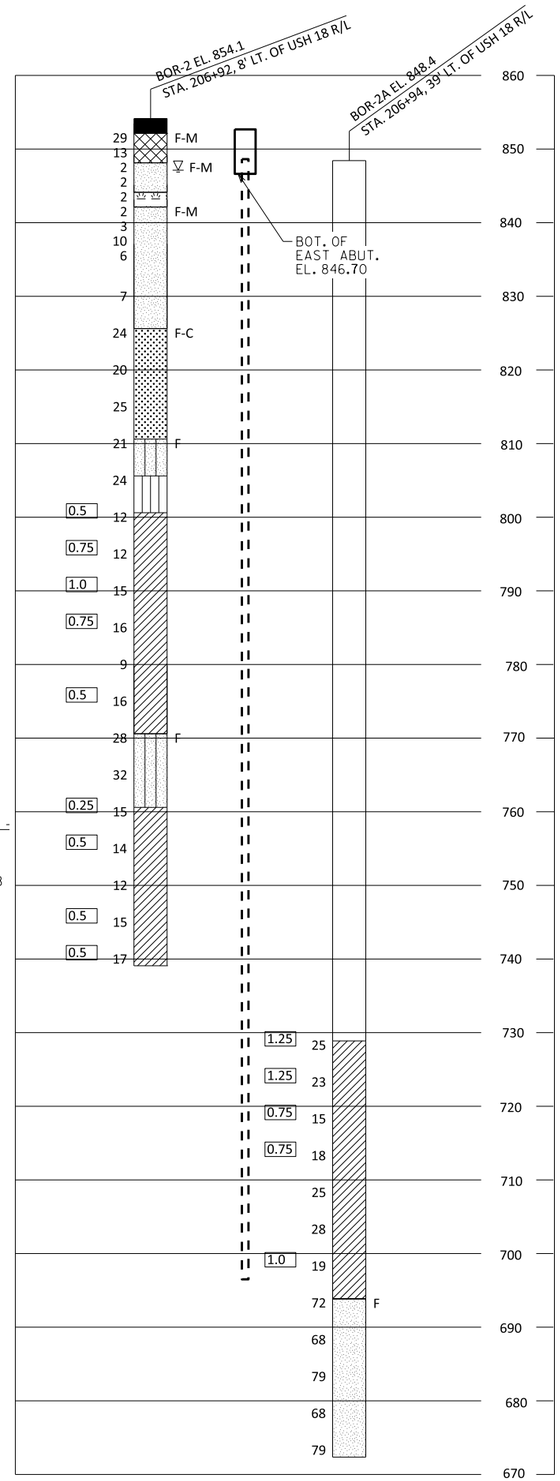
8

8




| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 2 | 1/12/2022 | 164822.4 | 612529.6 |
| 2-A | 1/18/2022 | 164852.4 | 612537.6 |
| 3 | 1/14-2022 | 164784.2 | 612448.0 |
| BORINGS COMPLETED BY: GESTRA | | | |
| REPORT COMPLETED BY: WISDOT | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83 (91) WAUKESHA COUNTY | | | |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT | | | |



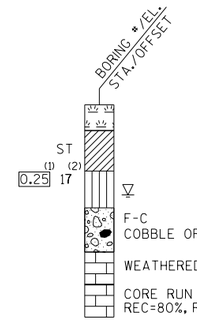

STATE PROJECT NUMBER

2715-03-73

MATERIAL SYMBOLS

| | | |
|---|---|---|
| ASPHALT | TOPSOIL | PEAT |
| CONCRETE | FILL | GRAVEL |
| SAND | CLAY | SILT |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE | SANDSTONE | IGNEOUS/ META |

LEGEND OF BORING




(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

DRAWN BY TLP/IFC | PLANS CK'D. WAH

SUBSURFACE EXPLORATION

SHEET 3

246

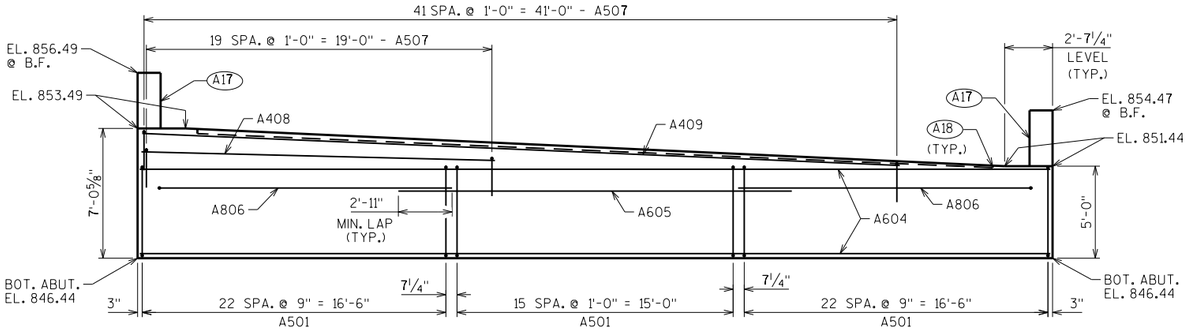
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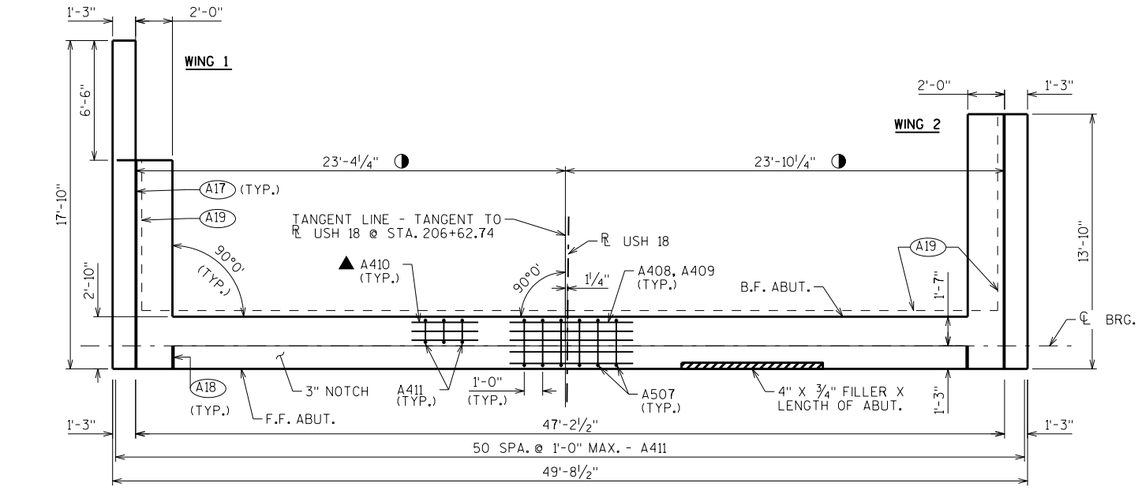
STATE PROJECT NUMBER

2715-03-73

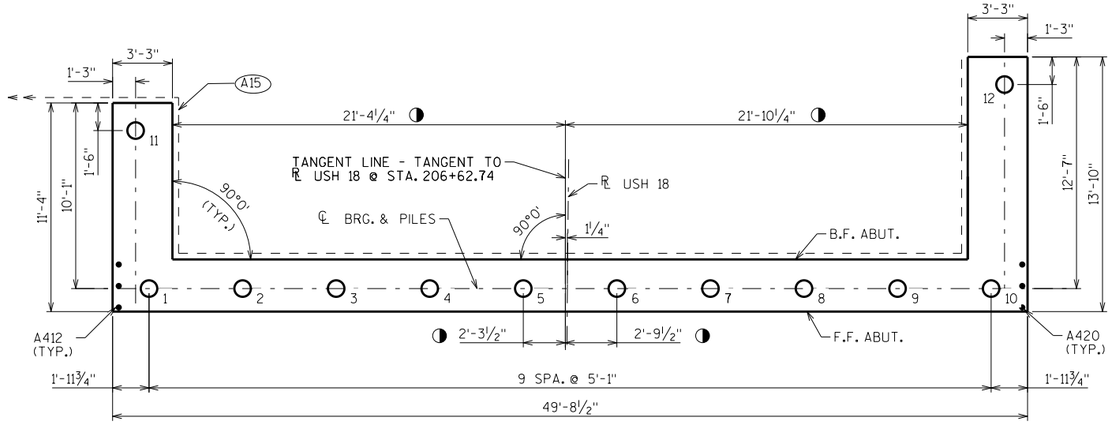



## ELEVATION

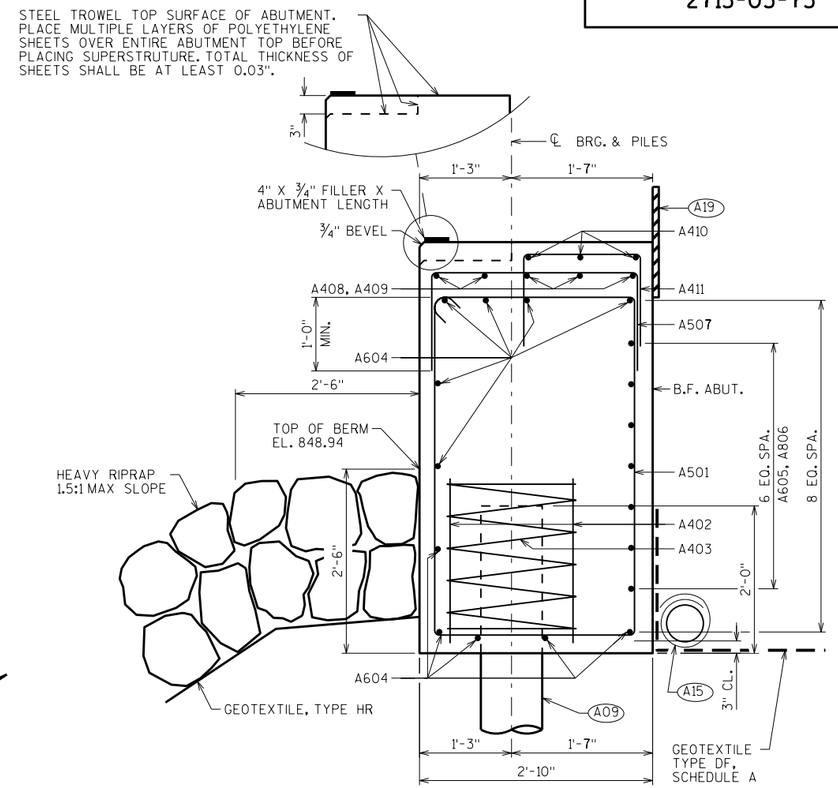
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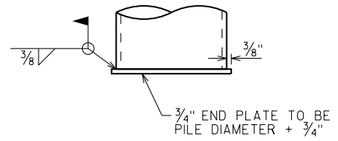

## PLAN



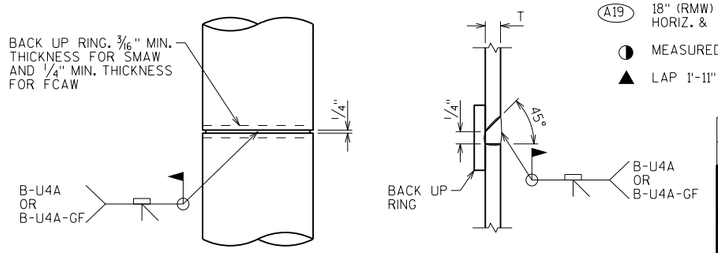

## PILE PLAN




## SECTION THRU BODY




## END PLATE DETAIL




CAST-IN-PLACE 'PIPE PILE'

C.I.P. PILE WELD DETAIL

## PILE DETAILS

## LEGEND

(A09) SUPPORT ABUTMENT ON 10¾" DIA. X 0.365" CIP CONCRETE PLING, ESTIMATED 130'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE RODENT SHIELD DETAIL ON ABUT. DETAIL SHEET.

(A17) ½" FILLER, SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) ¾" CORK FILLER ON VERTICAL SEAT FACE THAT RUNS PARALLEL WITH ROADWAY.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

◑ MEASURED ALONG TANGENT LINE

▲ LAP 1'-11" MIN. @ CENTER OF ABUTMENT.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

DRAWN BY IFC | PLANS CK'D. WAH

WEST ABUTMENT

SHEET 4

247

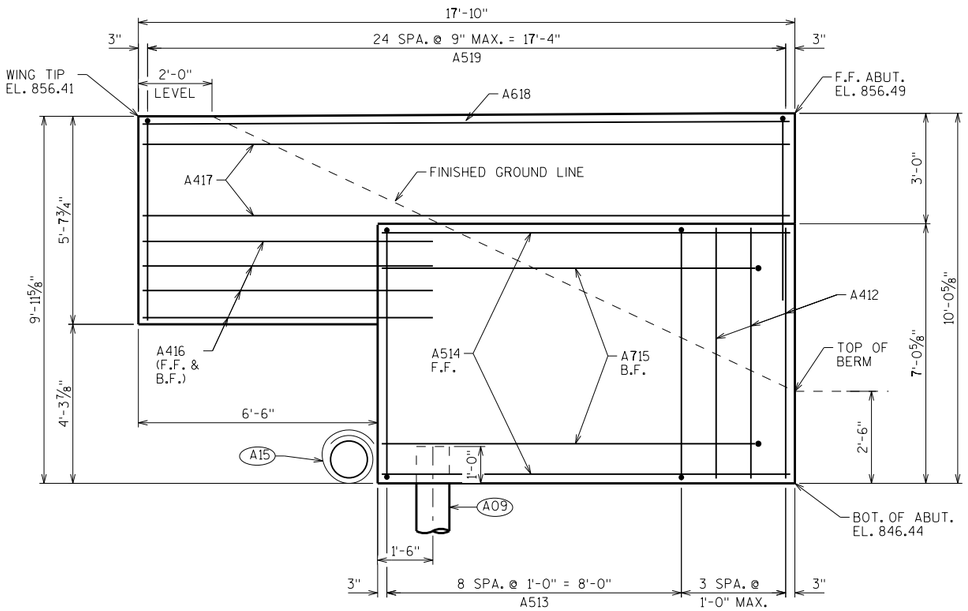
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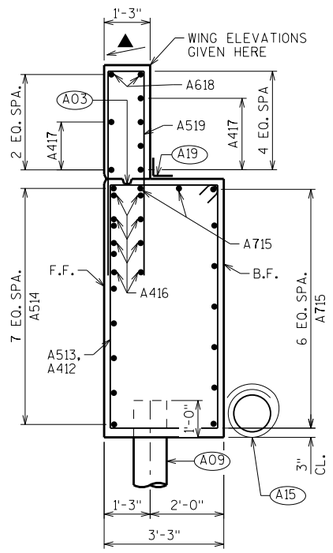
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STATE PROJECT NUMBER

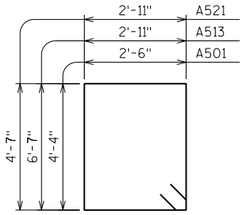
2715-03-73



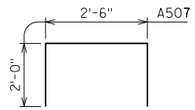

WING 1 - ELEVATION




WING 1 SECTION




A501, A513, A521

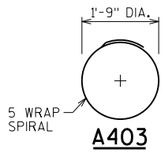



A507

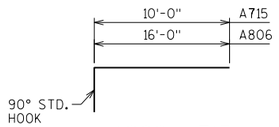
## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

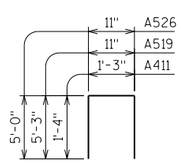
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| A501 | | 62 | 14'-4" | X | | BODY - STIRRUPS - VERT. |
| A402 | | 20 | 2'-3" | | | PILES - 2 PER BODY PILE |
| A403 | | 10 | 28'-0" | X | | PILES - 1 PER BODY PILE |
| A604 | | 11 | 49'-4" | | | BODY - HORIZ. F.F., TOP & BOT. |
| A605 | | 7 | 21'-5" | | | BODY - HORIZ. - B.F. - MIDDLE |
| A806 | | 14 | 17'-2 | X | | BODY - HORIZ. - B.F. - ENDS |
| A507 | | 62 | 6'-3" | X | | BODY - VERT. - TOP - SUPPLEMENTAL |
| A408 | | 5 | 19'-2" | | | BODY - HORIZ. - TOP - SUPPLEMENTAL |
| A409 | | 5 | 41'-4" | | | BODY - HORIZ. - TOP - SUPPLEMENTAL |
| A410 | | 6 | 25'-8" | | | BODY - HORIZ. - TOP |
| A411 | | 51 | 3'-9" | X | | BODY - VERT. - TOP |
| A412 | | 3 | 6'-7" | | | WING 1 - VERT. ABUT. END |
| A513 | X | 9 | 19'-8" | X | | WING 1 - STIRRUPS |
| A514 | X | 8 | 10'-10 | | | WING 1 - HORIZ. - F.F. - LOWER WING |
| A715 | X | 9 | 11'-0" | X | | WING 1 - HORIZ. - B.F. - LOWER WING |
| A416 | X | 8 | 7'-11" | | | WING 1 - HORIZ. - UPPER WING |
| A417 | X | 6 | 17'-6" | | | WING 1 - HORIZ. - UPPER WING |
| A618 | X | 2 | 17'-6" | | | WING 1 - HORIZ. - UPPER WING - TOP |
| A519 | X | 25 | 11'-3" | X | | WING 1 - VERT. - UPPER WING |
| A420 | | 3 | 4'-7" | | | WING 2 - VERT. ABUT. END |
| A521 | X | 12 | 15'-8" | X | | WING 2 - STIRRUPS |
| A522 | X | 6 | 13'-4" | | | WING 2 - HORIZ. - F.F. - LOWER WING |
| A623 | X | 9 | 12'-11" | | | WING 2 - HORIZ. - B.F. - LOWER WING |
| A424 | X | 7 | 13'-6" | | | WING 2 - HORIZ. - UPPER WING |
| A625 | X | 2 | 13'-6" | | | WING 2 - HORIZ. - UPPER WING - TOP |
| A526 | X | 19 | 10'-8" | X | | WING 2 - VERT. - UPPER WING |



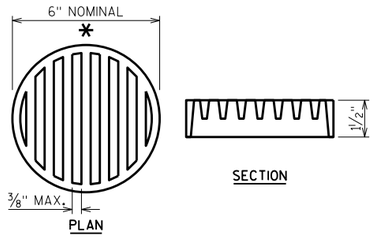

A403




A806, A715




A411, A519, A526

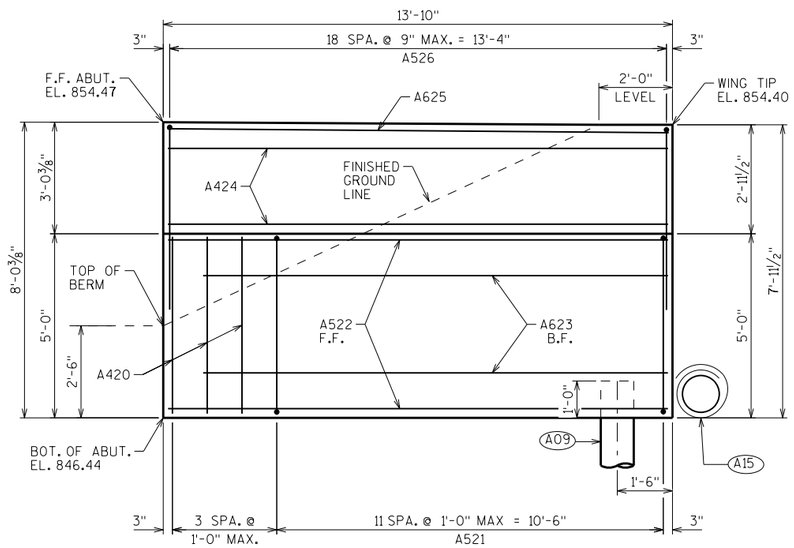



## RODENT SHIELD DETAIL

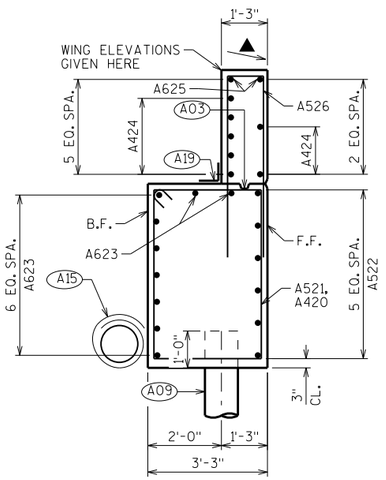
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.




WING 2 - ELEVATION




WING 2 SECTION

## LEGEND

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" RMW @ B.F. & 3/4" "V" GROVE @ F.F. IF JOINT IS USED).

(A09) SUPPORT ABUTMENT ON 10¾" DIA. X 0.365" CIP CONCRETE PLING, ESTIMATED 130'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE RODENT SHIELD DETAIL ON ABUT. DETAIL SHEET.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

▲ SLOPE TOP OF WING TO DRAIN.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

DRAWN BY IFC | PLANS CK'D. WAH

WEST ABUTMENT DETAILS

SHEET 5

248

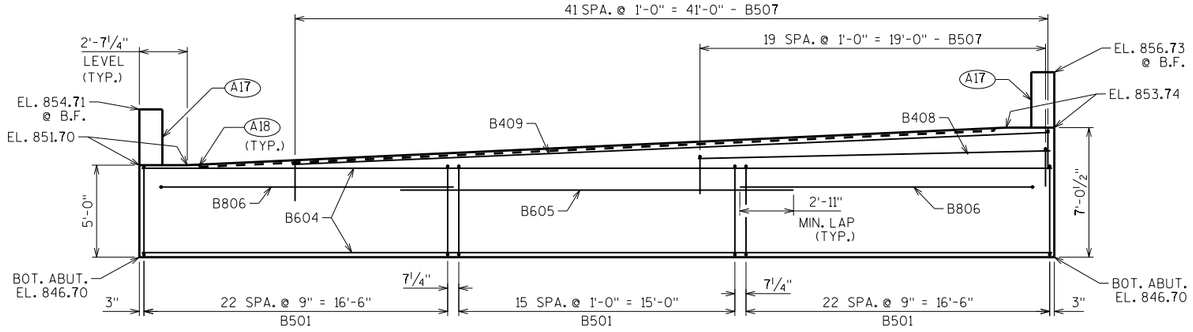
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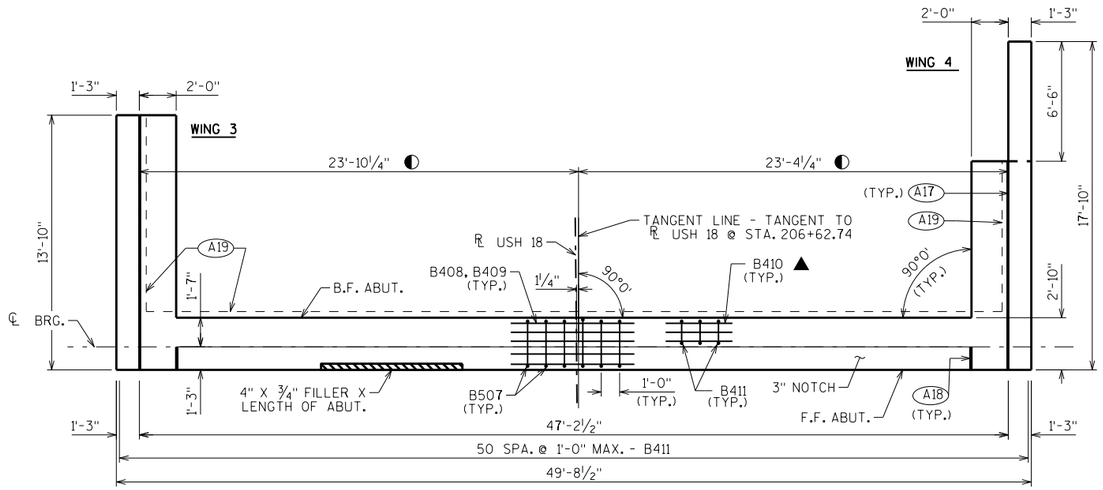
STATE PROJECT NUMBER

2715-03-73

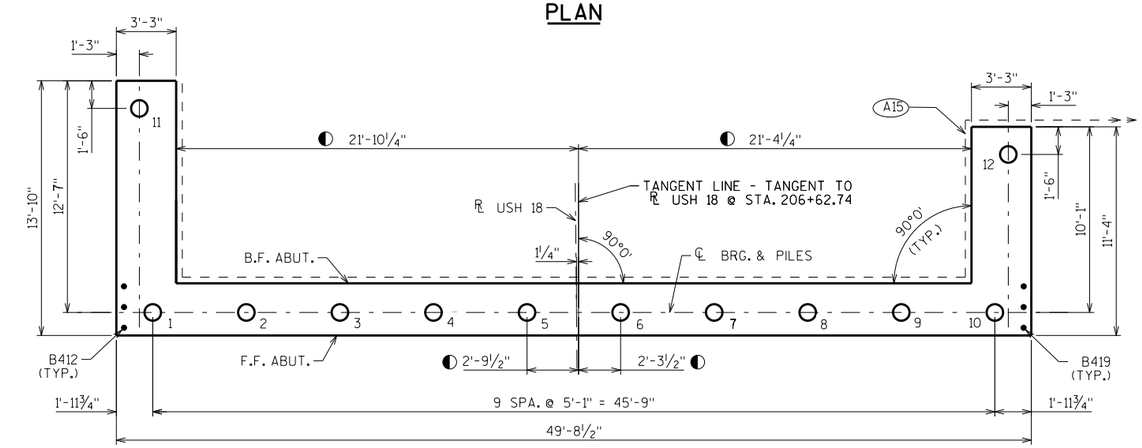



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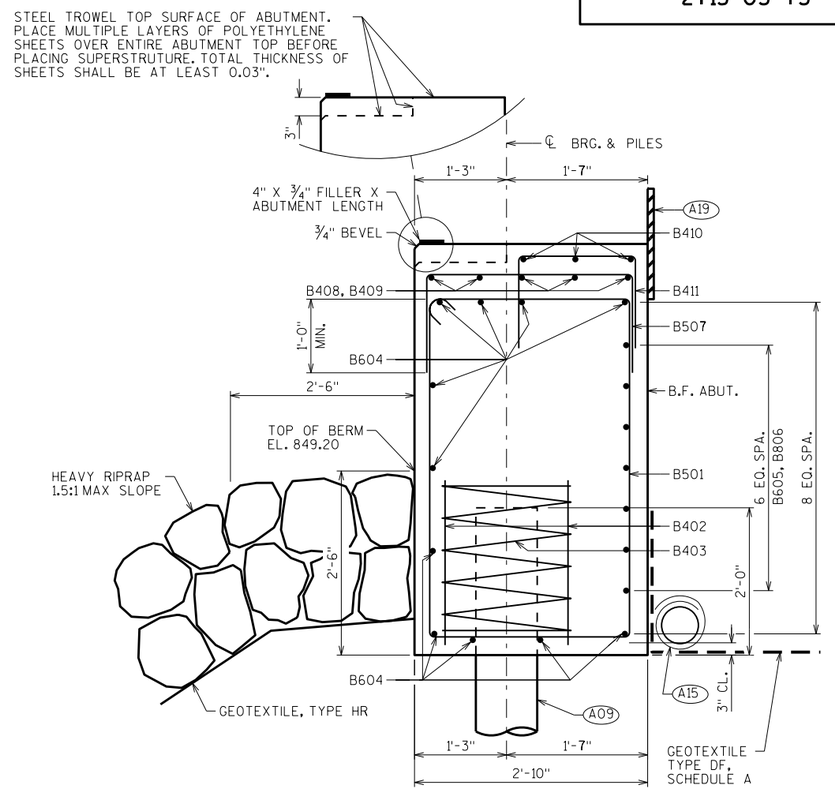
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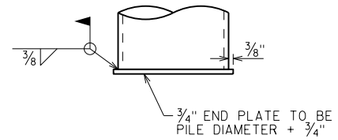

## PLAN



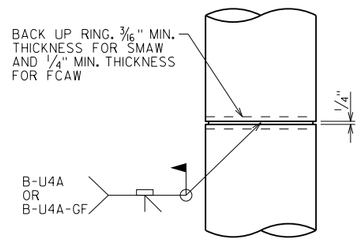

## PILE PLAN



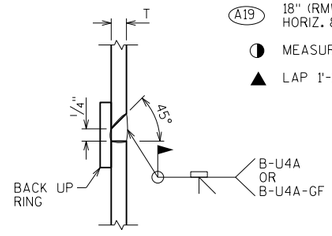

## SECTION THRU BODY




## END PLATE DETAIL




CAST-IN-PLACE 'PIPE PILE'




C.I.P. PILE WELD DETAIL

## PILE DETAILS

## LEGEND

- (A09) SUPPORT ABUTMENT ON 10¾" DIA. X 0.365" CIP CONCRETE PLING, ESTIMATED 150'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.
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- (A17) ½" FILLER, SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) ¾" CORK FILLER ON VERTICAL SEAT FACE THAT RUNS PARALLEL WITH ROADWAY.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ◑ MEASURED ALONG TANGENT LINE
- ▲ LAP 1'-11" MIN. @ CENTER OF ABUTMENT.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

DRAWN BY | IFC | PLANS CK'D. WAH

EAST ABUTMENT

SHEET 6

249

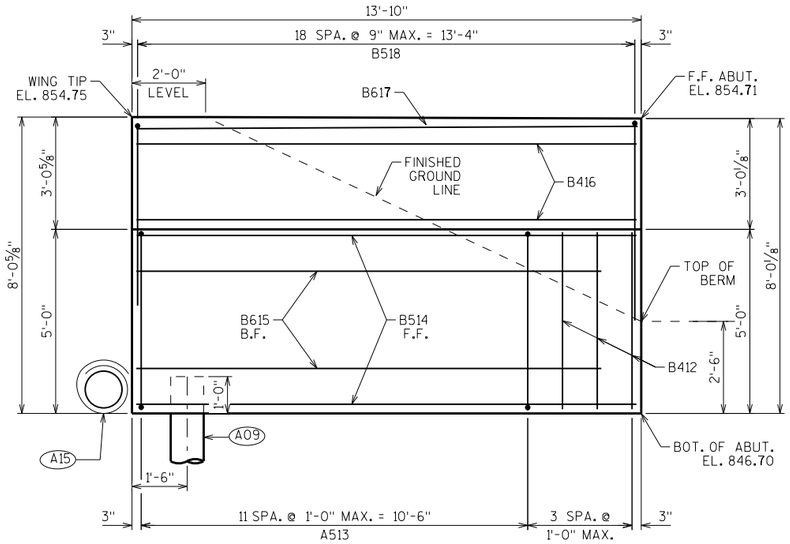
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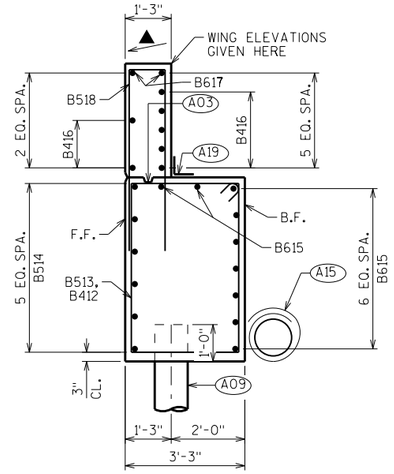
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STATE PROJECT NUMBER

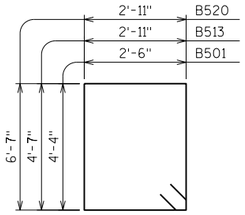
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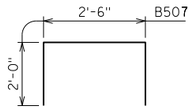

WING 3 - ELEVATION



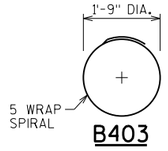

WING 3 SECTION



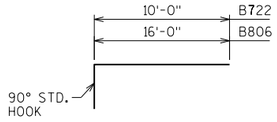

B501, B513, B520




B507



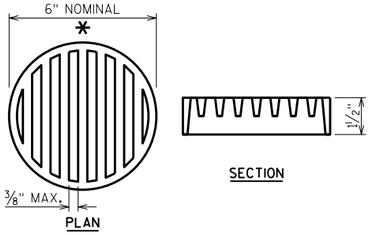

B403




B806, B722




B411, B518, B526




RODENT SHIELD DETAIL

## BILL OF BARS

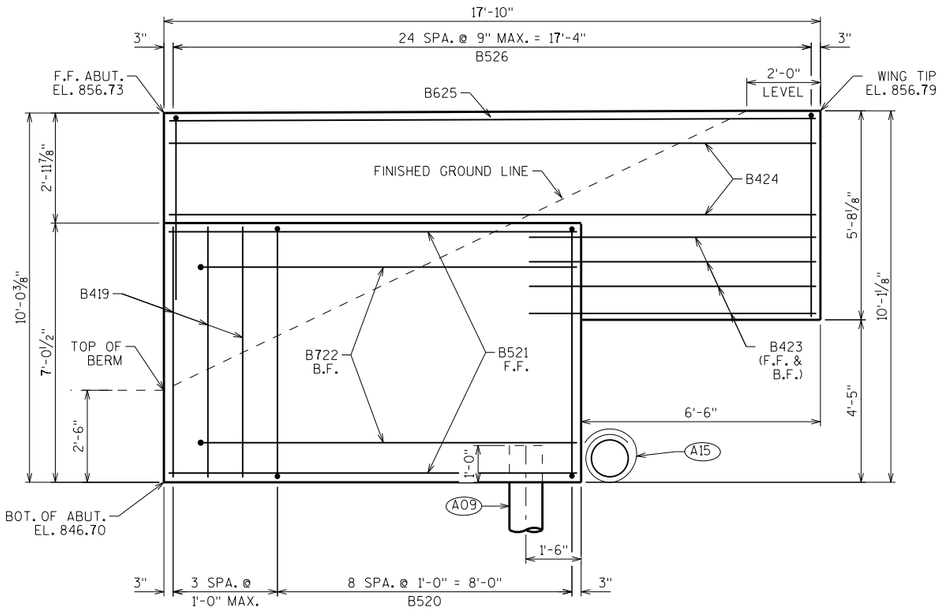
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| B501 | | 62 | 14'-4" | X | | BODY - STIRRUPS - VERT. |
| B402 | | 20 | 2'-3" | | | PILES - 2 PER BODY PILE |
| B403 | | 10 | 28'-0" | X | | PILES - 1 PER BODY PILE |
| B604 | | 11 | 49'-4" | | | BODY - HORIZ. F.F., TOP & BOT. |
| B605 | | 7 | 21'-5" | | | BODY - HORIZ. - B.F. - MIDDLE |
| B806 | | 14 | 17'-2 | X | | BODY - HORIZ. - B.F. - ENDS |
| B507 | | 62 | 6'-3" | X | | BODY - VERT. - TOP - SUPPLEMENTAL |
| B408 | | 5 | 19'-2" | | | BODY - HORIZ. - TOP - SUPPLEMENTAL |
| B409 | | 5 | 41'-4" | | | BODY - HORIZ. - TOP - SUPPLEMENTAL |
| B410 | | 6 | 25'-8" | | | BODY - HORIZ. - TOP |
| B411 | | 51 | 3'-9" | X | | BODY - VERT. - TOP |
| B412 | | 3 | 4'-7" | | | WING 3 - VERT. ABUT. END |
| B513 | X | 12 | 15'-8" | X | | WING 3 - STIRRUPS |
| B514 | X | 6 | 13'-4" | | | WING 3 - HORIZ. - F.F. - LOWER WING |
| B615 | X | 9 | 12'-11" | | | WING 3 - HORIZ. - B.F. - LOWER WING |
| B416 | X | 7 | 13'-6" | | | WING 3 - HORIZ. - UPPER WING |
| B617 | X | 2 | 13'-6" | | | WING 3 - HORIZ. - UPPER WING - TOP |
| B518 | X | 19 | 10'-8" | X | | WING 3 - VERT. - UPPER WING |
| B419 | | 3 | 6'-7" | | | WING 4 - VERT. ABUT. END |
| B520 | X | 9 | 19'-8" | X | | WING 4 - STIRRUPS |
| B521 | X | 8 | 10'-10 | | | WING 4 - HORIZ. - F.F. - LOWER WING |
| B722 | X | 9 | 11'-0" | X | | WING 4 - HORIZ. - B.F. - LOWER WING |
| B423 | X | 8 | 7'-11" | | | WING 4 - HORIZ. - UPPER WING |
| B424 | X | 6 | 17'-6" | | | WING 4 - HORIZ. - UPPER WING |
| B625 | X | 2 | 17'-6" | | | WING 4 - HORIZ. - UPPER WING - TOP |
| B526 | X | 25 | 11'-4" | X | | WING 4 - VERT. - UPPER WING |

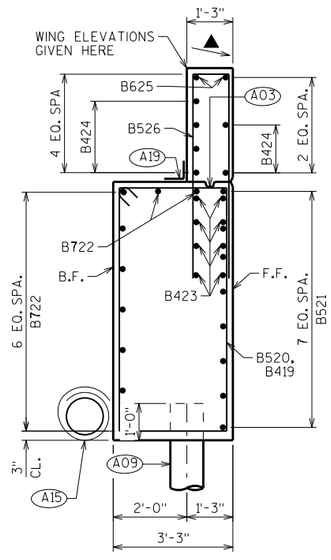
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.




WING 4 - ELEVATION




WING 4 SECTION

## LEGEND

- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" RMW @ B.F. & 3/4" "V" GROVE @ F.F. IF JOINT IS USED).
- (A09) SUPPORT ABUTMENT ON 10¾" DIA. X 0.365" CIP CONCRETE PLING, ESTIMATED 150'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE RODENT SHIELD DETAIL ON ABUT. DETAIL SHEET.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ▲ SLOPE TOP OF WING TO DRAIN.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

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EAST ABUTMENT DETAILS

SHEET 7

250

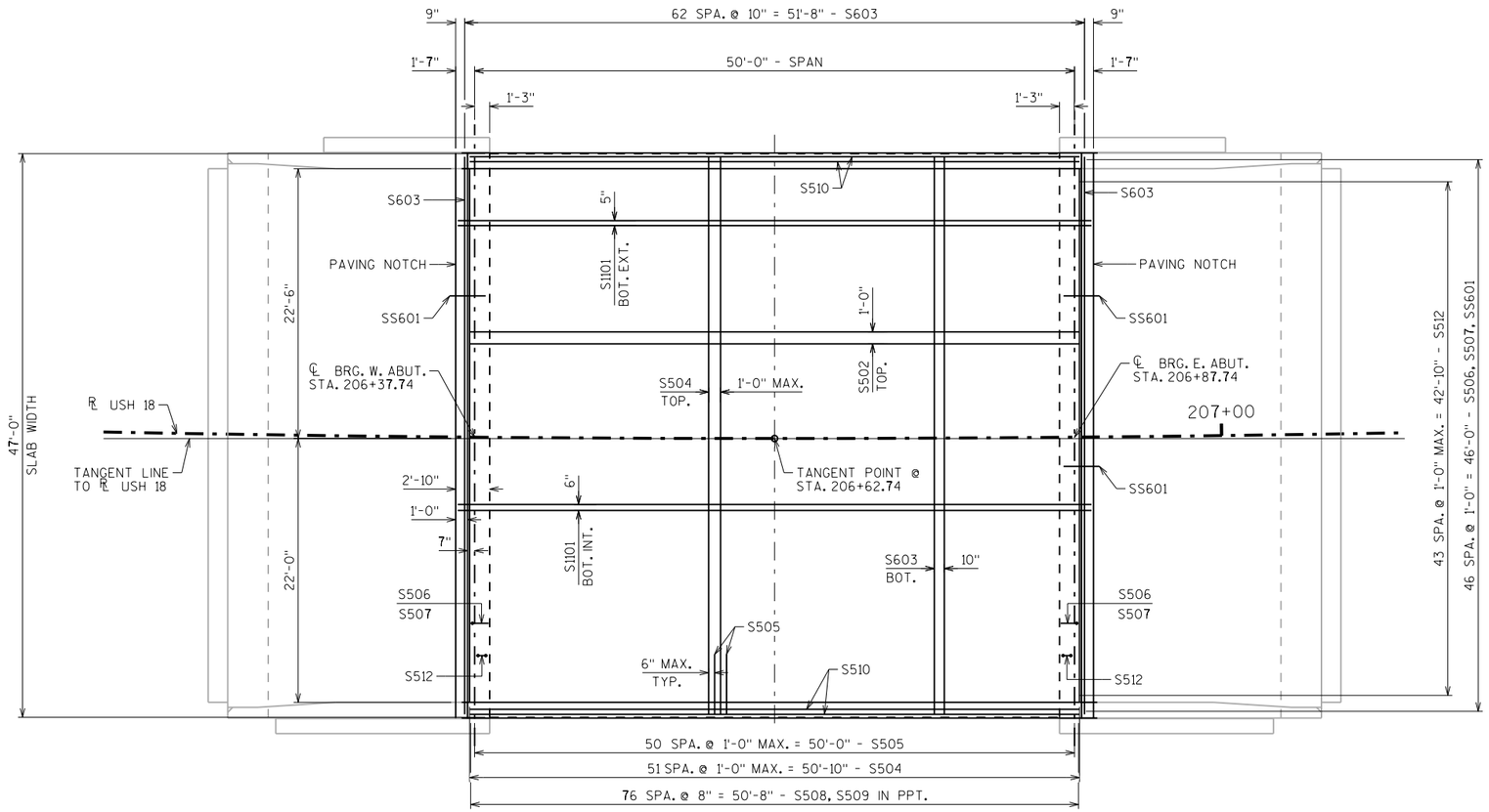
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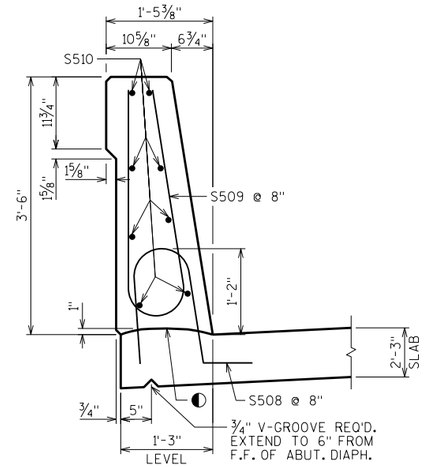
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STATE PROJECT NUMBER

2715-03-73

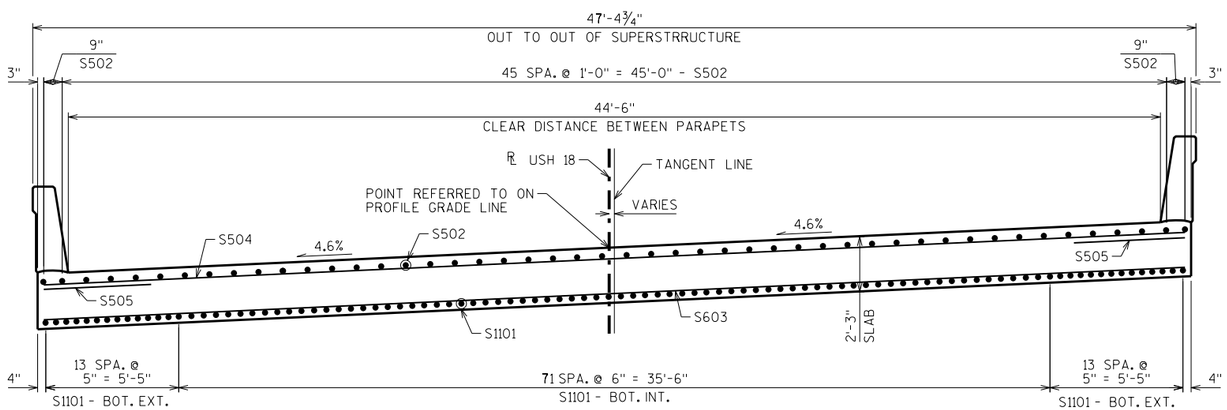



## SUPERSTRUCTURE PLAN




## SECTION THRU PARAPET ON SLAB

◐ CONST. JOINT - STRIKE OFF AS SHOWN




## CROSS SECTION THRU ROADWAY

LOOKING EAST

## NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BARS CHAIRS AT APPROXIMATELY 3'-0" CENTER EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORT BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

PARAPETS PLACED ON THE SLAB SHALL BE POURED AFTER THE FALSEWORK HAS BEEN RELEASED.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

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SUPERSTRUCTURE

SHEET 8

251

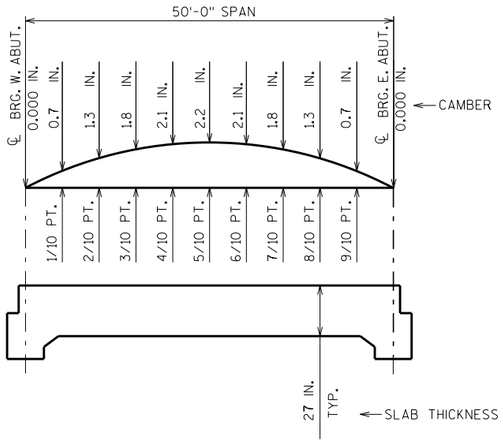
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STATE PROJECT NUMBER

2715-03-73

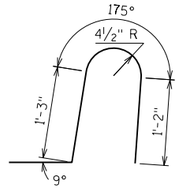



## CAMBER AND SLAB THICKNESS DIAGRAM

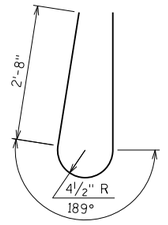
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

| | |
|---|---|
| | TOP OF SLAB ELEVATION AT FINAL GRADE |
| LESS | SLAB THICKNESS |
| PLUS | CAMBER |
| PLUS | FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR) |
| EQUALS | TOP OF SLAB FALSEWORK ELEVATION. |




S508



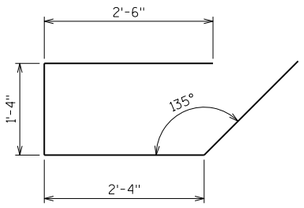

S509

## BILL OF BARS

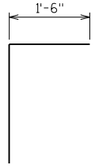
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| S1101 | X | 98 | 52'-10" | | | BOTTOM LONGITUDINAL |
| S502 | X | 48 | 50'-10" | | | TOP LONGITUDINAL |
| S603 | X | 63 | 46'-7" | | | BOTTOM TRANSVERSE |
| S504 | X | 52 | 46'-8" | | | TOP TRANSVERSE |
| S505 | X | 102 | 5'-0" | | | END OF SLAB - TRANSVERSE |
| S506 | X | 94 | 8'-0" | X | | END OF SLAB @ ABUTMENTS |
| S507 | X | 94 | 4'-0" | X | | END OF SLAB @ ABUTMENTS |
| S508 | X | 154 | 4'-5" | X | | PARAPETS - VERT. |
| S509 | X | 154 | 6'-8" | X | | PARAPETS - VERT. |
| S510 | X | 16 | 50'-10" | | | PARAPETS - LONGIT. |
| S511 | X | 8 | 46'-7" | | | END OF SLAB @ ABUTMENTS |
| S512 | X | 88 | 4'-0" | X | | END OF SLAB @ ABUTMENTS |
| S513 | X | 4 | 42'-10" | | | END OF SLAB @ ABUTMENTS |
| S601 | | 94 | 3'-0" | | | STRUCTURAL APPROACH SLAB |

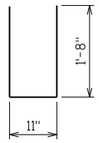
STAINLESS STEEL



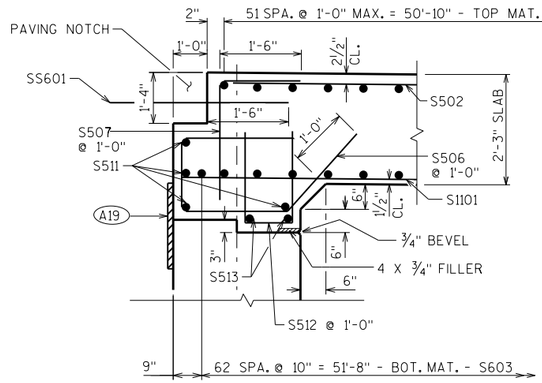

S506




S507




S512




DIAPHRAGM CROSS SECTION

## TOP OF SLAB ELEVATIONS

| | ℄ BRG. W. ABUT. | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | ℄ BRG. E. ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N. EDGE OF DECK | 854.44 | 854.47 | 854.49 | 854.52 | 854.54 | 854.57 | 854.59 | 854.62 | 854.64 | 854.67 | 854.70 |
| ℄ USH 18 | 855.47 | 855.50 | 855.52 | 855.55 | 855.57 | 855.60 | 855.63 | 855.65 | 855.68 | 855.70 | 855.73 |
| TANGENT LINE | 855.47 | 855.50 | 855.52 | 855.55 | 855.57 | 855.60 | 855.63 | 855.65 | 855.68 | 855.70 | 855.73 |
| S. EDGE OF DECK | 856.48 | 856.51 | 856.54 | 856.56 | 856.59 | 856.61 | 856.64 | 856.66 | 856.69 | 856.71 | 856.74 |

## SURVEY TOP OF SLAB ELEVATIONS

| | ℄ BRG. WEST ABUTMENT | 5/10 PT. | ℄ BRG. EAST ABUTMENT |
|---|---|---|---|
| NORTH GUTTERLINE | | | |
| TANGENT LINE | | | |
| SOUTH GUTTERLINE | | | |

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND TANGENT LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

## LEGEND

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

DRAWN BY | IFC | PLANS CK'D. WAH

SUPERSTRUCTURE DETAILS

SHEET 9

252

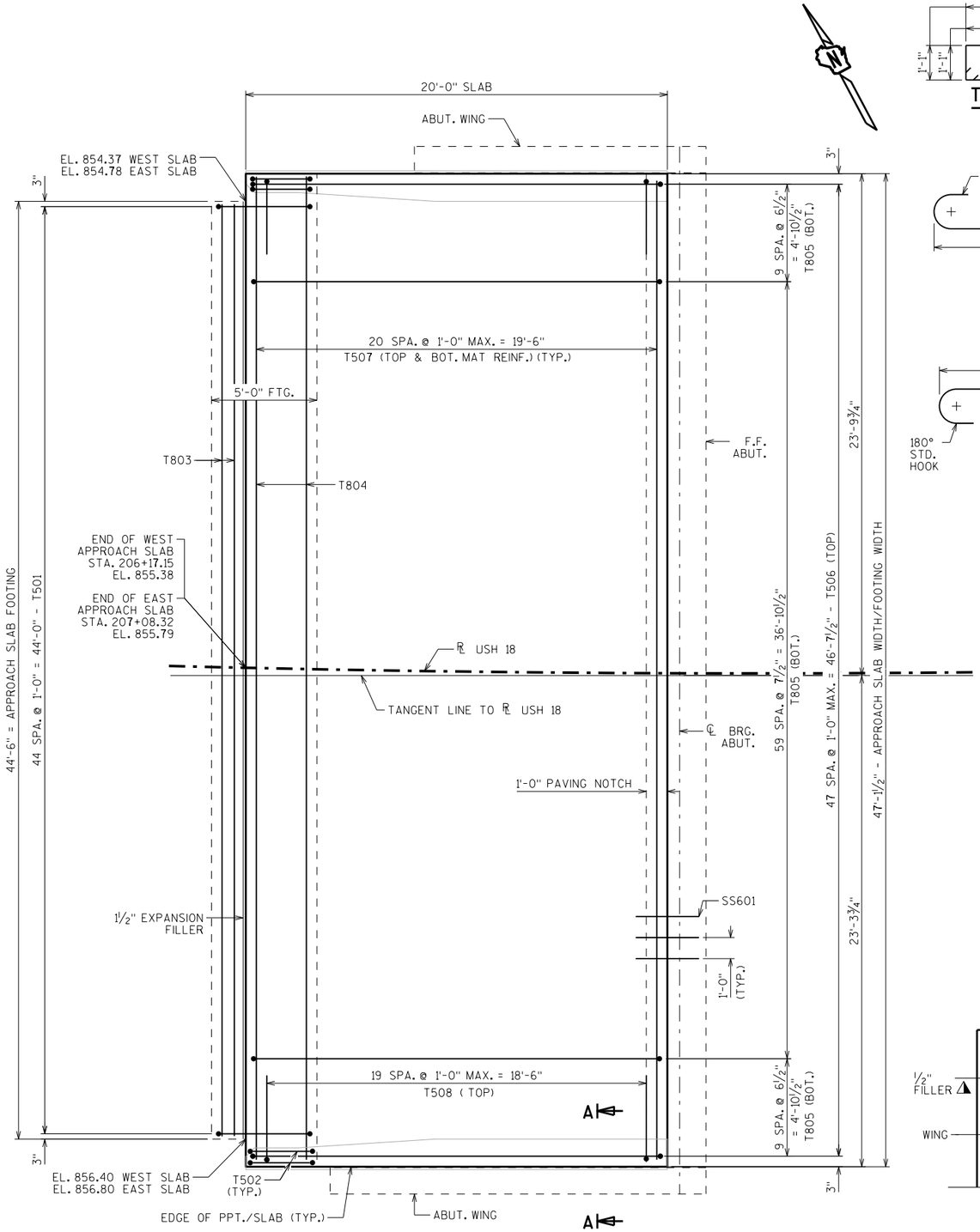
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8

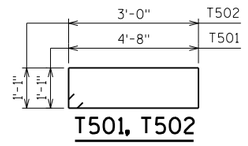
STATE PROJECT NUMBER

2715-03-73

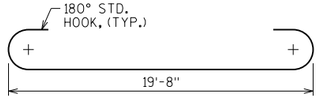



## PLAN

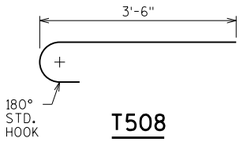
WEST STRUCTURAL APPROACH SLAB SHOWN
EAST STRUCTURAL APPROACH SLAB SIMILAR




## T501, T502




## T805

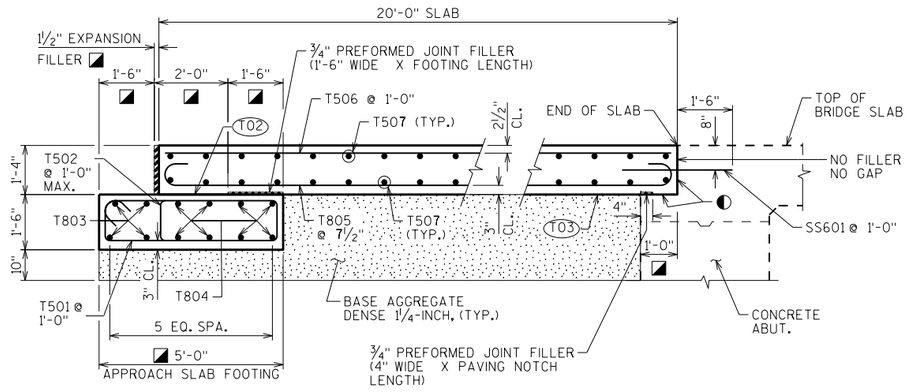



## T508

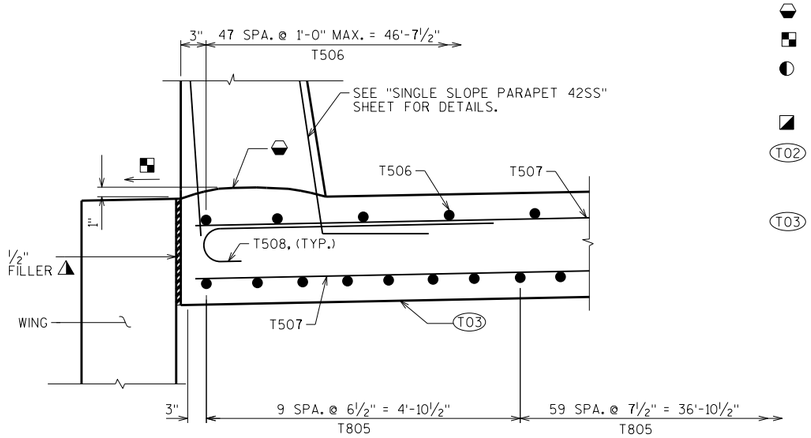
## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

| BAR MARK | COAT | NO. REQ'D. WEST SLAB | NO. REQ'D. EAST SLAB | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|
| T501 | X | 45 | 45 | 12'-2" | X | | APPROACH SLAB FTG. - STIRRUP |
| T502 | X | 4 | 4 | 8'-10" | X | | APPROACH SLAB FTG. - STIRRUP |
| T803 | X | 4 | 4 | 44'-2" | | | APPROACH SLAB FTG. - TRANS. |
| T804 | X | 8 | 8 | 46'-9" | | | APPROACH SLAB FTG. - TRANS. |
| T805 | X | 78 | 78 | 21'-6" | X | | APPROACH SLAB - LONG. - BOT. |
| T506 | X | 48 | 48 | 19'-8" | | | APPROACH SLAB - LONG. - TOP |
| T507 | X | 21 | 21 | 46'-9" | | | APPROACH SLAB - TRANS. - TOP & BOT. |
| T508 | X | 40 | 40 | 4'-1" | X | | APPROACH SLAB - TRANS. - TOP - WING |




## SECTION THRU APPROACH SLAB




## SECTION A-A

## LEGEND

- SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- CONST. JOINT - STRIKE OFF AS SHOWN
- SLOPE TO DRAIN
- APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCUTRAL APPROACH SLAB.
- MEASURED NORMAL TO ABUTMENT
- (T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- (T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

DRAWN BY IFC | PLANS CK'D. WAH

STRUCTURAL APPROACH SLAB

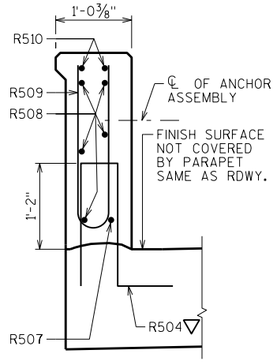
SHEET 10

253

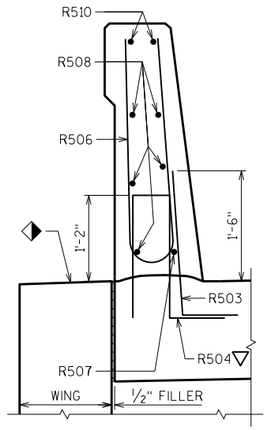
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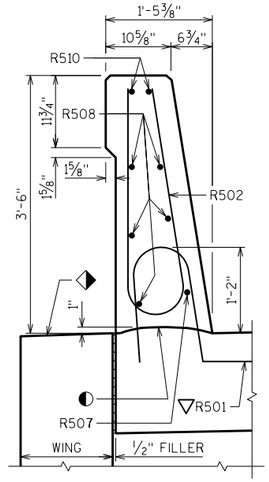
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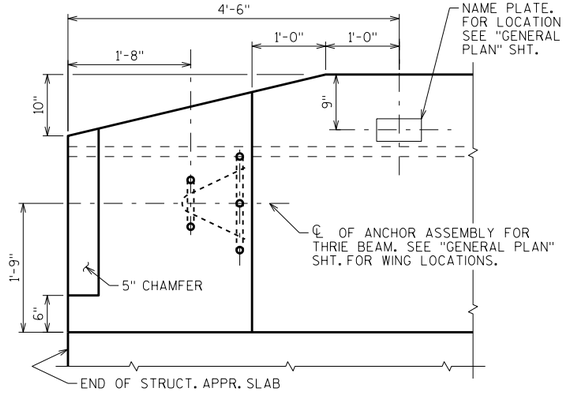

## SECTION A-A




## SECTION B-B




## SECTION C-C




## PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

STATE PROJECT NUMBER

2715-03-73

## BILL OF BARS

FOR STRUCTURAL APPROACH SLAB PARAPETS

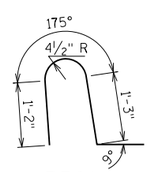
| BAR MARK | COAT | WEST ABUT. | EAST ABUT. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|
| R501 | X | 34 | 34 | 4'-5" | X | | PARAPET VERT. |
| R502 | X | 34 | 34 | 6'-8" | X | | PARAPET VERT. |
| R503 | X | 24 | 24 | 2'-9" | X | | PARAPET VERT. |
| R504 | X | 34 | 34 | 4'-4" | X | | PARAPET VERT. |
| R505 | X | 10 | 10 | 6'-5" | X | | PARAPET VERT. |
| R506 | X | 12 | 12 | 6'-6" | X | | PARAPET VERT. |
| R507 | X | 2 | 2 | 19'-8" | X | | PARAPET HORIZ. |
| R508 | X | 10 | 10 | 19'-8" | | | PARAPET HORIZ. |
| R509 | X | 12 | 12 | 5'-5" | X | ⚠ | PARAPET VERT. |
| R510 | X | 4 | 4 | 19'-8" | X | | PARAPET HORIZ. |

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

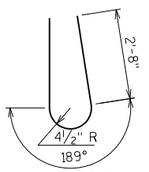
## BAR SERIES TABLE

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| R509 | 4 SERIES OF 6 | 4'-9" TO 6'-1" |

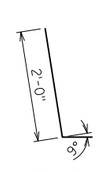
BUNDLE AND TAG EACH SERIES SEPARATELY.



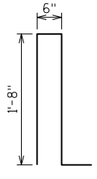

R501



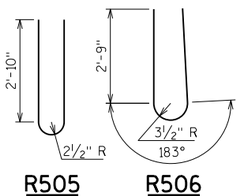

R502



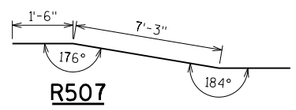

R503



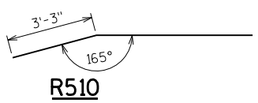

R504



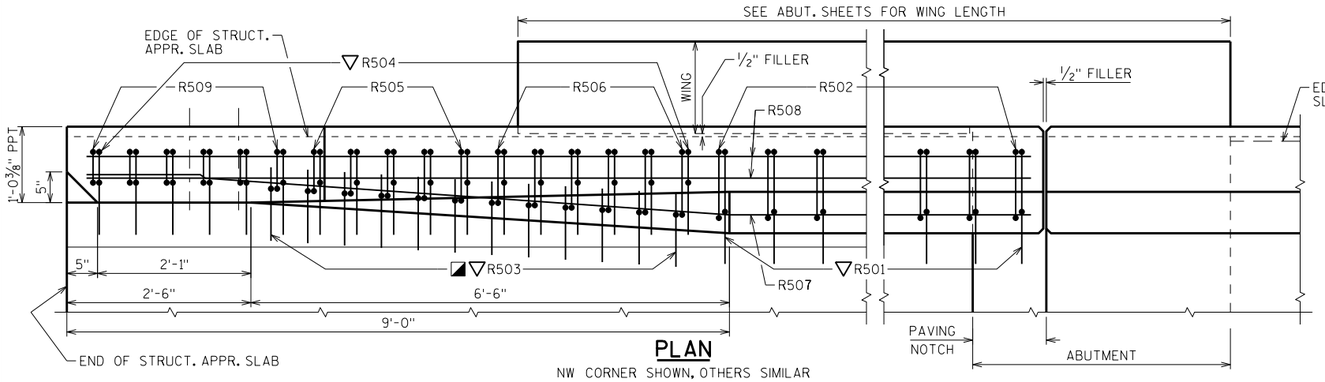

R505 R506 R509




R507

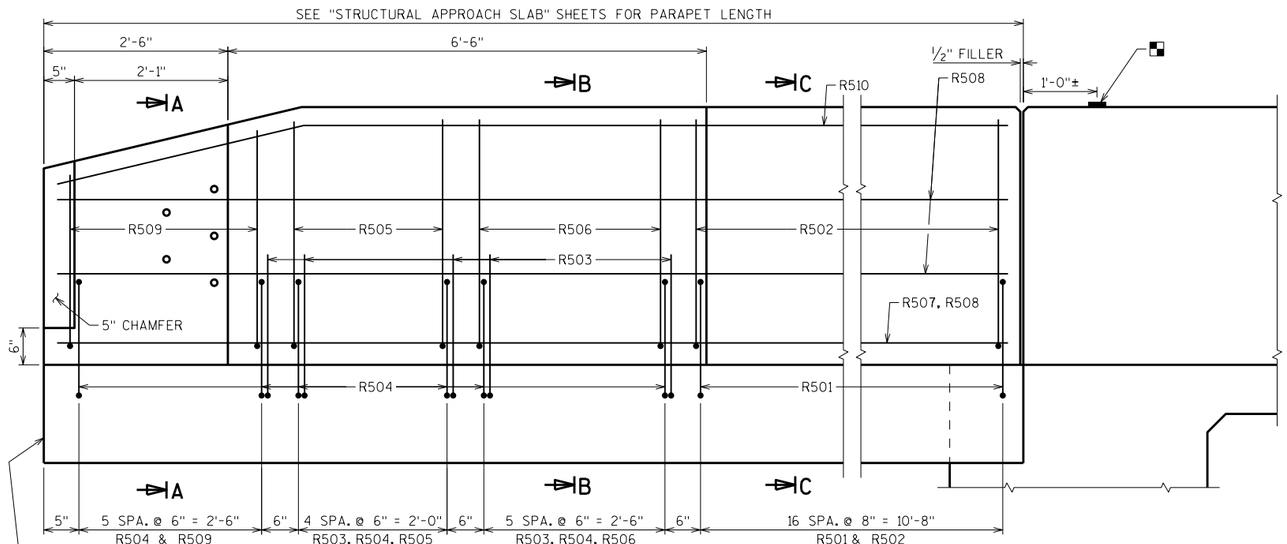



R510




## PLAN

NW CORNER SHOWN, OTHERS SIMILAR




## INSIDE ELEVATION

NW CORNER SHOWN, OTHERS SIMILAR
WING & STRUCTURAL APPROACH SLAB FOOTING NOT SHOWN FOR CLARITY

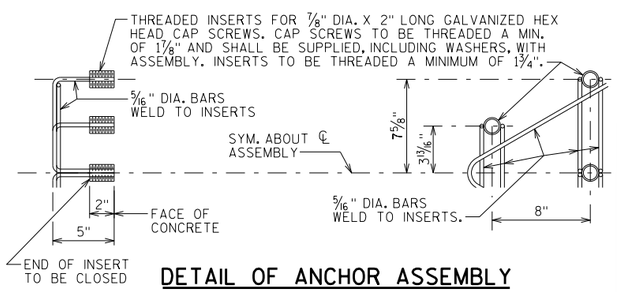
■ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

◐ CONST. JOINT - STRIKE OFF AS SHOWN

◆ SLOPE FOR DRAINAGE

◪ USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501, R503, AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.




## DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-377

DRAWN BY IFC | PLANS CK'D. WAH

SINGLE SLOPE PARAPET 42SS

SHEET 11

254

SCALE = 1.00

8

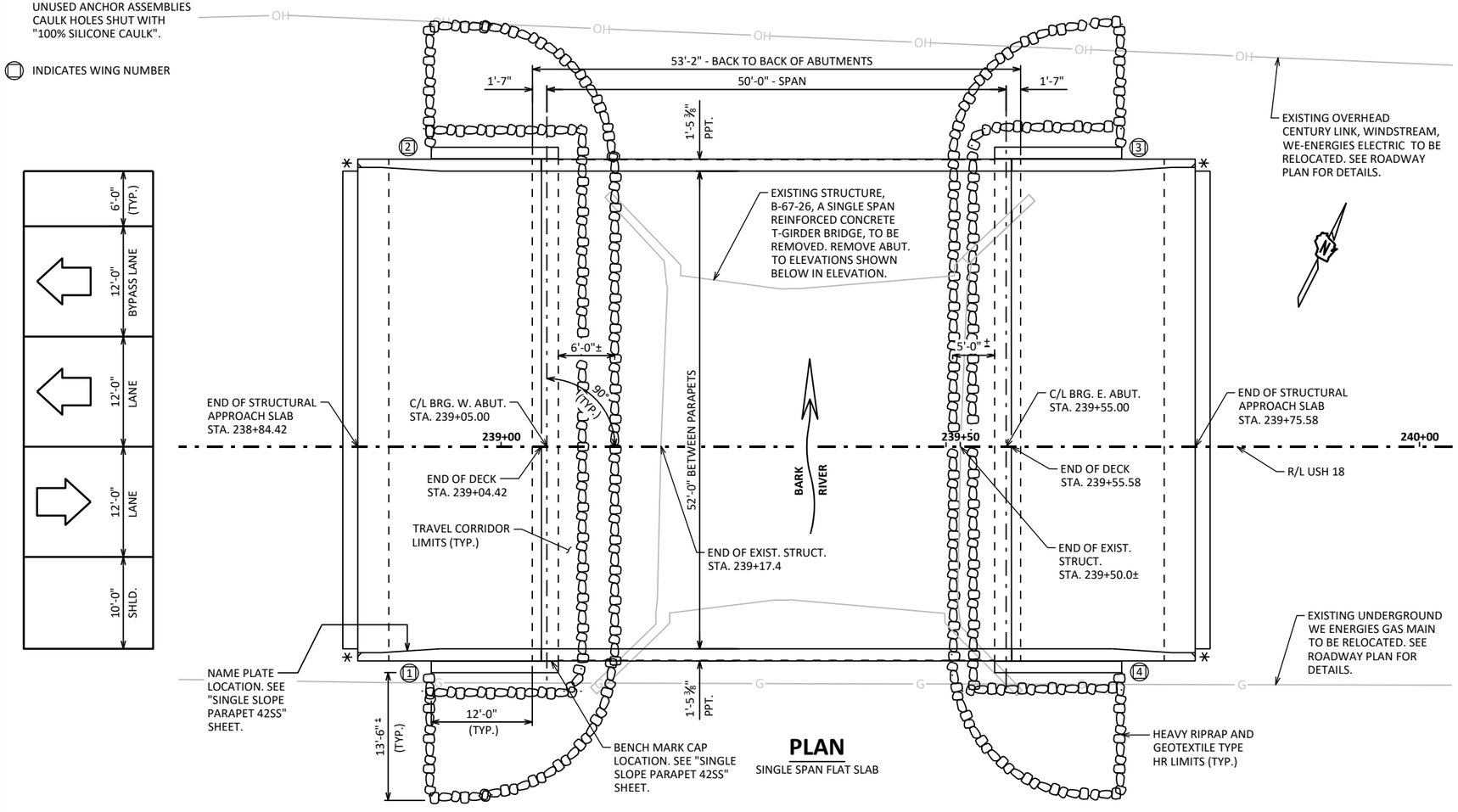
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STATE PROJECT NUMBER

**2715-03-73**

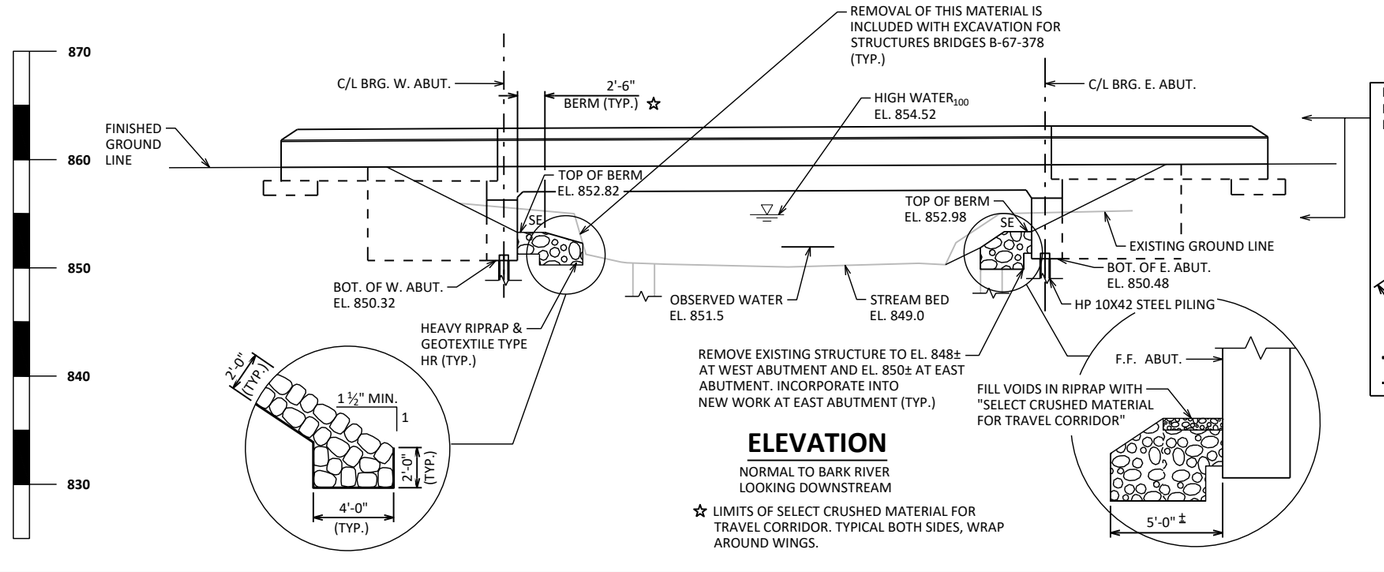
* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

(1) INDICATES WING NUMBER




## PLAN

SINGLE SPAN FLAT SLAB

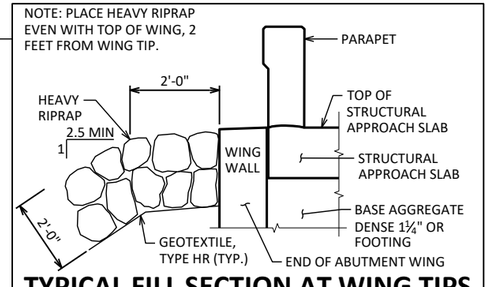



## ELEVATION

NORMAL TO BARK RIVER LOOKING DOWNSTREAM

☆ LIMITS OF SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR. TYPICAL BOTH SIDES, WRAP AROUND WINGS.

NOTE: PLACE HEAVY RIPRAP EVEN WITH TOP OF WING, 2 FEET FROM WING TIP.




## TYPICAL FILL SECTION AT WING TIPS

## DESIGN DATA

**LIVE LOAD:**

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.28
OPERATING RATING FACTOR: RF = 1.66
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

**MATERIAL PROPERTIES:**

CONCRETE MASONRY:
- SUPERSTRUCTURE & STRUCTURAL APPROACH SLAB — $f'_c$ = 4,000 PSI
- ALL OTHER — $f'_c$ = 3,500 PSI

BAR STEEL REINFORCEMENT
- GRADE 60 — $f_y$ = 60,000 PSI
- STAINLESS, GRADE 60 — $f_y$ = 60,000 PSI

## FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10x42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 115'-'0" LONG AT WEST ABUT.
ESTIMATED 125'-'0" LONG AT EAST ABUT.

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE PILE CAPACITY.

## HYDRAULIC DATA

**100-YEAR FREQUENCY:**

$Q_{100}$= 480 C.F.S.
$V_{100}$= 4.1 F.P.S.
$HW_{100}$= EL. 854.52
WATERWAY AREA = 117 SQ. FT.
DRAINAGE AREA = 44 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

**2-YEAR FREQUENCY:**

$Q_2$= 200 C.F.S.
$V_2$= 2.6 F.P.S.
$HW_2$= EL. 853.39

## TRAFFIC VOLUME

**USH 18**

ADT = 7,400 (2044)
R.D.S. = 60 M.P.H.

**LIST OF DRAWINGS**


1. GENERAL PLAN
2. GENERAL NOTES & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUT.
5. WEST ABUT. DETAILS
6. EAST ABUT.
7. EAST ABUT. DETAILS
8. SUPERSTRUCTURE CROSS SECTION
9. SUPERSTRUCTURE PLAN
10. STRUCTURAL APPROACH SLABS
11. SINGLE SLOPE PARAPET 42SS
12. ALTERNATE CONSTRUCTION JOINT



**STRUCTURE DESIGN CONTACTS:**

IAN LINDLOFF (608) 261-2557
KYLE H BUSCH (608) 267-0465


| NO. | DATE | REVISION | BY |
|---|---|---|---|

BUREAU OF STRUCTURES

ACCEPTED KHB 3/10/23
CHIEF STRUCTURES DESIGN ENGINEER — DATE

**STRUCTURE B-67-378**

USH 18 OVER BARK RIVER

| COUNTY | VILLAGE |
|---|---|
| WAUKESHA | SUMMIT |

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

| DESIGNED BY | DESIGNED CK'D | DRAWN BY | PLANS CK'D |
|---|---|---|---|
| IDL | WAH | MJH | WAH |

**GENERAL PLAN**

SHEET 1 OF 12
255

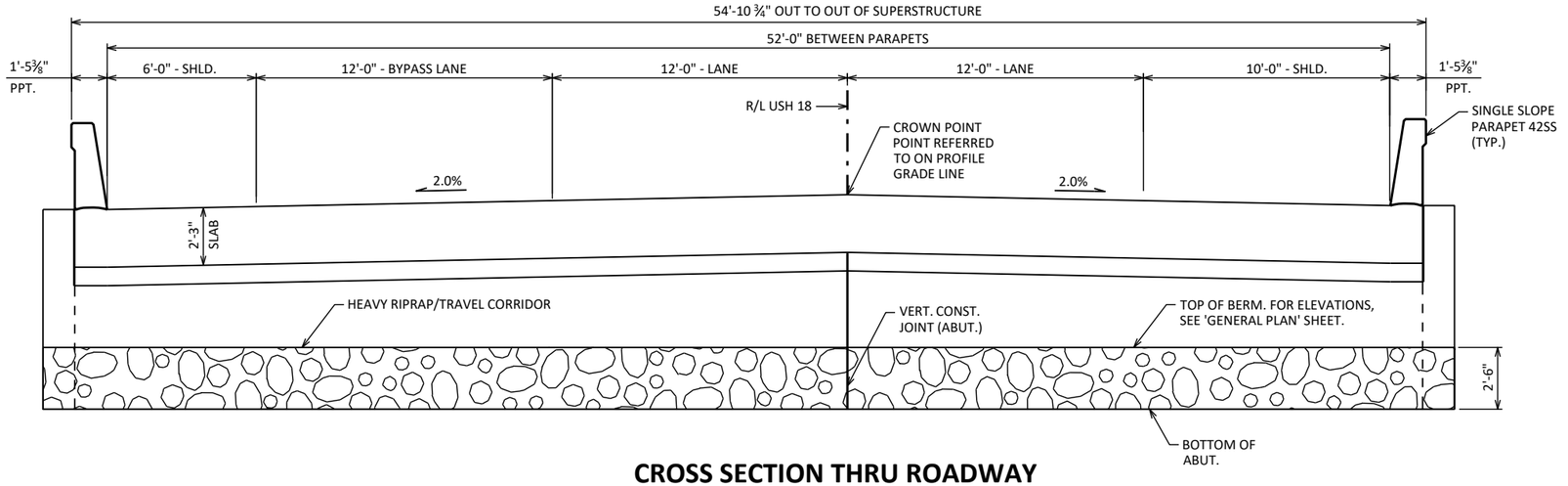
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I.D. 2715-03-03C

DATE: MARCH 2023

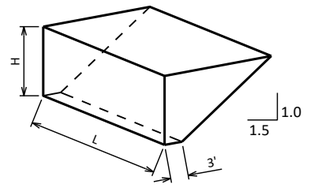
8

8



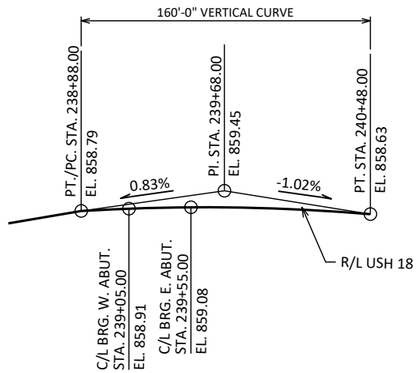

## CROSS SECTION THRU ROADWAY

(LOOKING EAST)

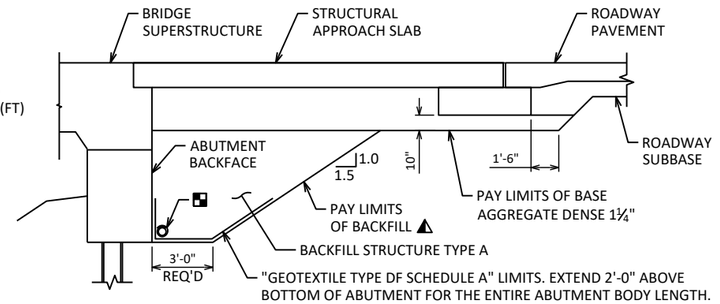



## ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
$V_{CF}$ = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
$V_{CY}$ = $V_{CF}$ (EF)/27
$V_{TON}$ = $V_{CY}$ (2.0)




## PROFILE GRADE LINE - USH 18




## TYPICAL SECTION THRU ABUTMENT

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

▪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

## TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | SUPER | WEST APP. SLAB | WEST ABUT. | EAST ABUT. | EAST APP. SLAB | TOTALS |
|---|---|---|---|---|---|---|---|---|
| 203.0270 | REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-67-26 | EACH | ——— | ——— | ——— | ——— | ——— | 1 |
| 206.1001 | EXCAVATION FOR STRUCTURES BRIDGES B-67-378 | EACH | ——— | ——— | ——— | ——— | ——— | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | ——— | ——— | 125 | 125 | ——— | 250 |
| 305.0120 | BASE AGGREGATE DENSE 1 1/4-INCH | TON | ——— | 170 | ——— | ——— | 170 | 340 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 260.9 | 74.3 | 50.1 | 50.2 | 74.3 | 510 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 325 | 116 | ——— | ——— | 116 | 557 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 52 | 20 | ——— | ——— | 20 | 92 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | ——— | ——— | 3,880 | 3,880 | ——— | 7,760 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 44,330 | 12,450 | 1,640 | 1,640 | 12,450 | 72,510 |
| 505.0800.S | BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES | LB | 500 | ——— | ——— | ——— | ——— | 500 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | ——— | ——— | 14 | 14 | ——— | 28 |
| 550.1100 | PILING STEEL HP 10-INCH X 42 LB | LF | ——— | ——— | 1,035 | 1,125 | ——— | 2,160 |
| 606.0300 | RIPRAP HEAVY | CY | ——— | ——— | 63 | 68 | ——— | 131 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | ——— | ——— | 95 | 95 | ——— | 190 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | 4 | ——— | ——— | ——— | ——— | 4 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | ——— | ——— | 55 | 55 | ——— | 110 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | ——— | ——— | 160 | 140 | ——— | 300 |
| SPV.0195 | SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR | TON | ——— | ——— | 18 | 17 | ——— | 35 |
| | | | | | | | | |
| | | | | | | | | |
| | NON-BID ITEMS | | | | | | | |
| | | | | | | | | |
| | FILLER | SIZE | | | | | | ½", ¾", 1½" |

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾ " UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-67-378" SHALL BE THE EXISTING GROUNDLINE AND EXISTING STREAMBED.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

STATE PROJECT NUMBER

**2715-03-73**

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

**GENERAL NOTES & QUANTITIES**

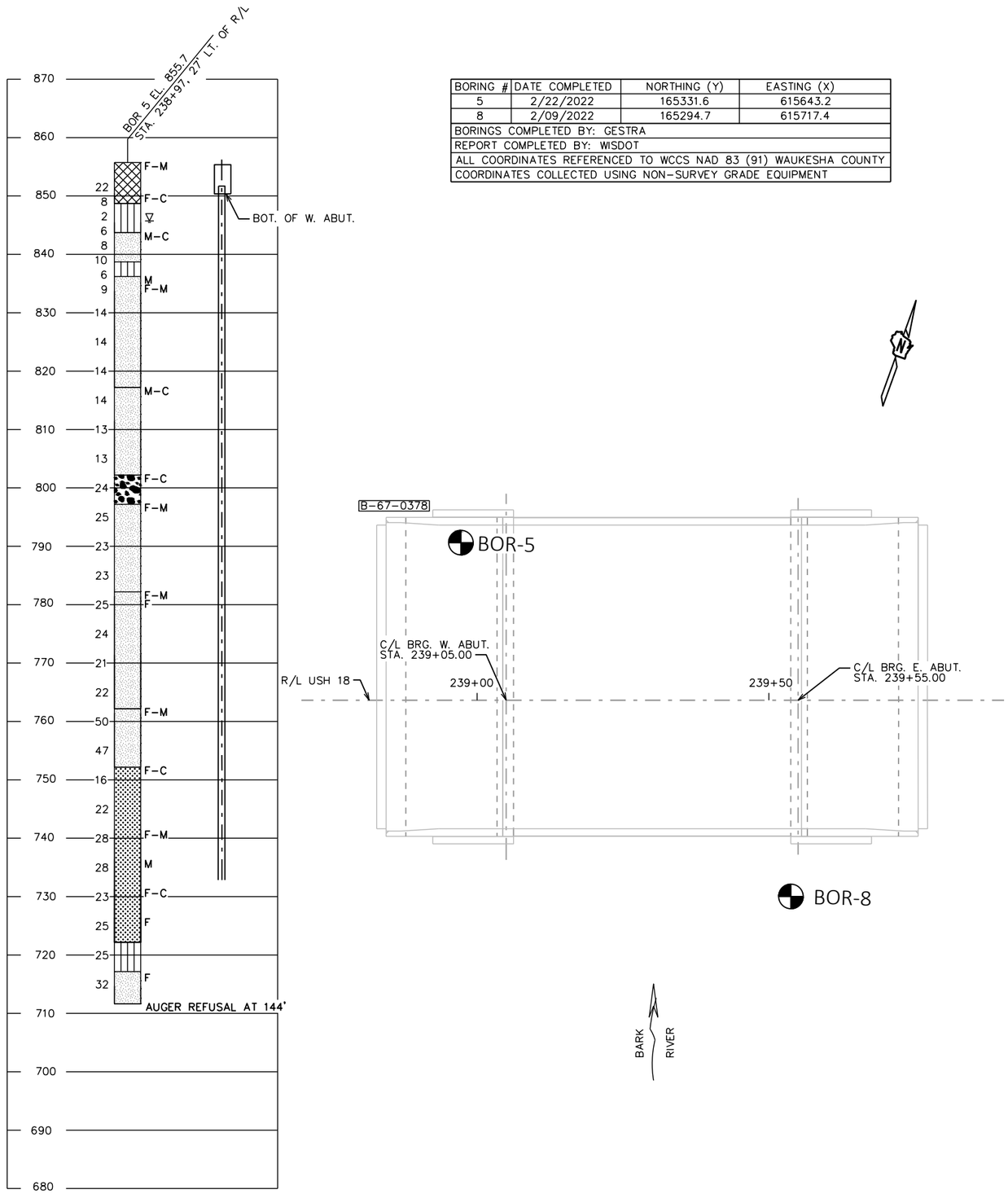
SHEET 2
256

SCALE =

8

8

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 5 | 2/22/2022 | 165331.6 | 615643.2 |
| 8 | 2/09/2022 | 165294.7 | 615717.4 |
| BORINGS COMPLETED BY: GESTRA | | | |
| REPORT COMPLETED BY: WISDOT | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83 (91) WAUKESHA COUNTY | | | |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT | | | |



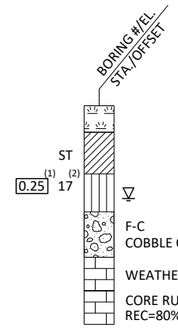

STATE PROJECT NUMBER

**2715-03-73**

**MATERIAL SYMBOLS**

ASPHALT, TOPSOIL, PEAT, CONCRETE, FILL, GRAVEL, SAND, CLAY, SILT, BOULDERS OR COBBLES, LIMESTONE, BEDROCK (UNKNOWN), SHALE, SANDSTONE, IGNEOUS/META

**LEGEND OF BORING**




(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

**GROUND WATER ELEVATION**

AT TIME OF DRILLING

END OF DRILLING

AFTER DRILLING

**ABBREVIATIONS**

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY JJ/MJH PLANS CK'D WAH

**SUBSURFACE EXPLORATION**

SHEET 3
257

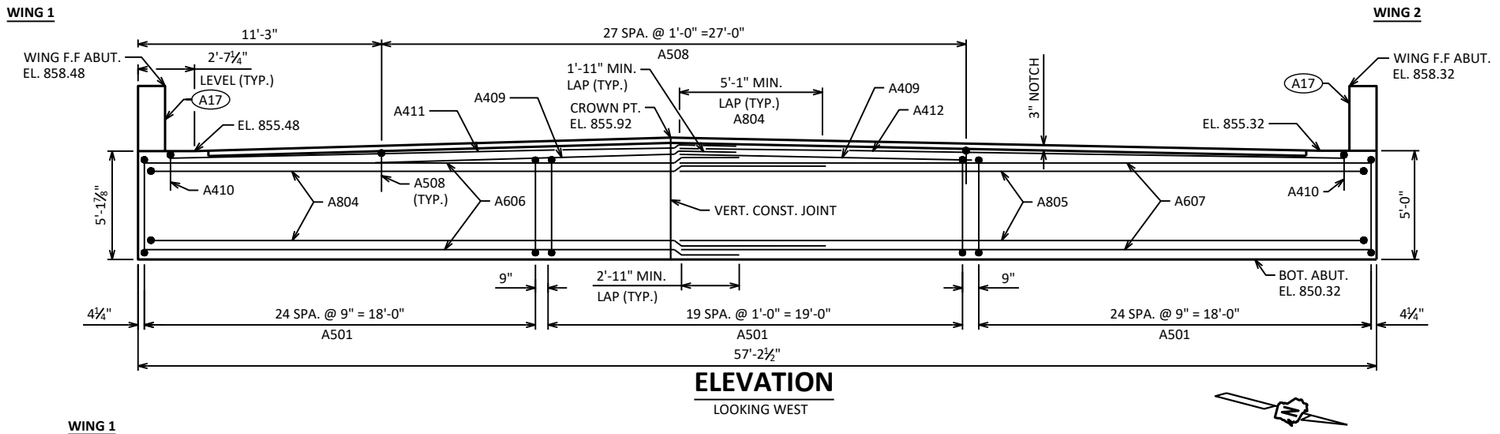
SCALE =

8

8

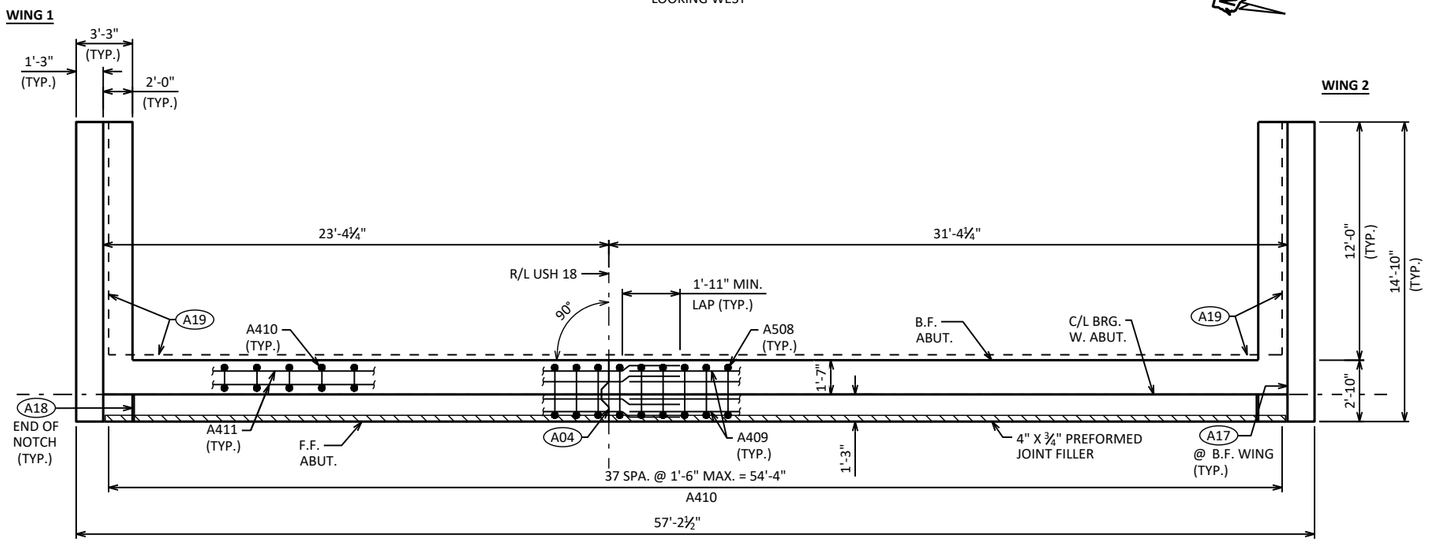
STATE PROJECT NUMBER

**2715-03-73**

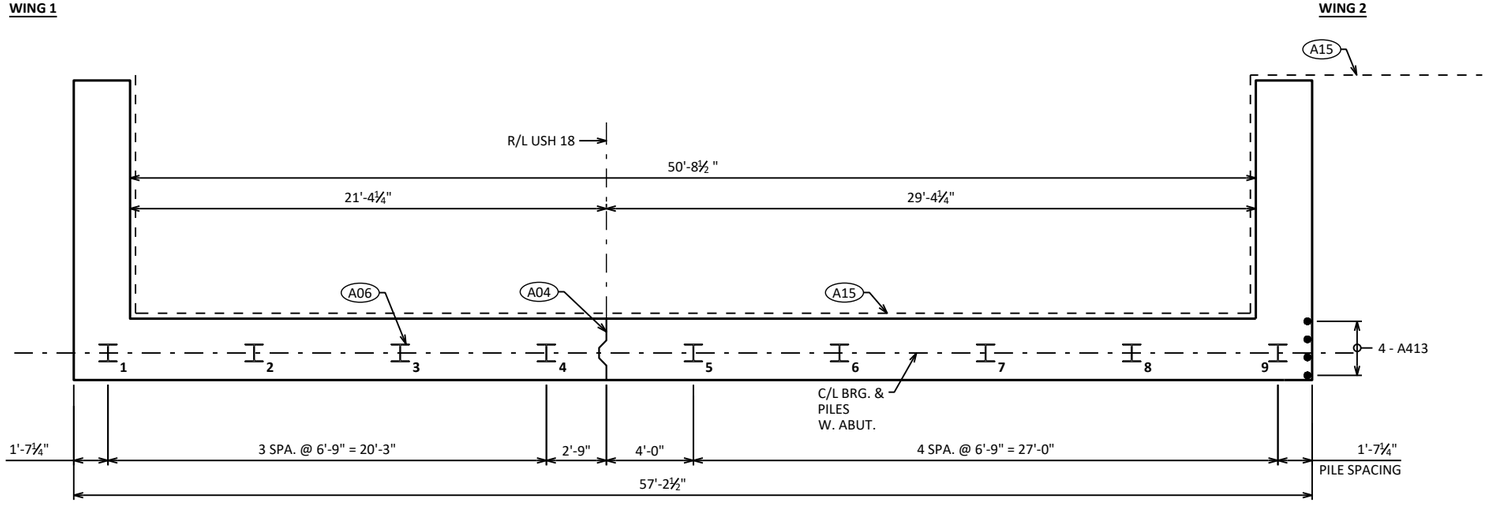



## ELEVATION

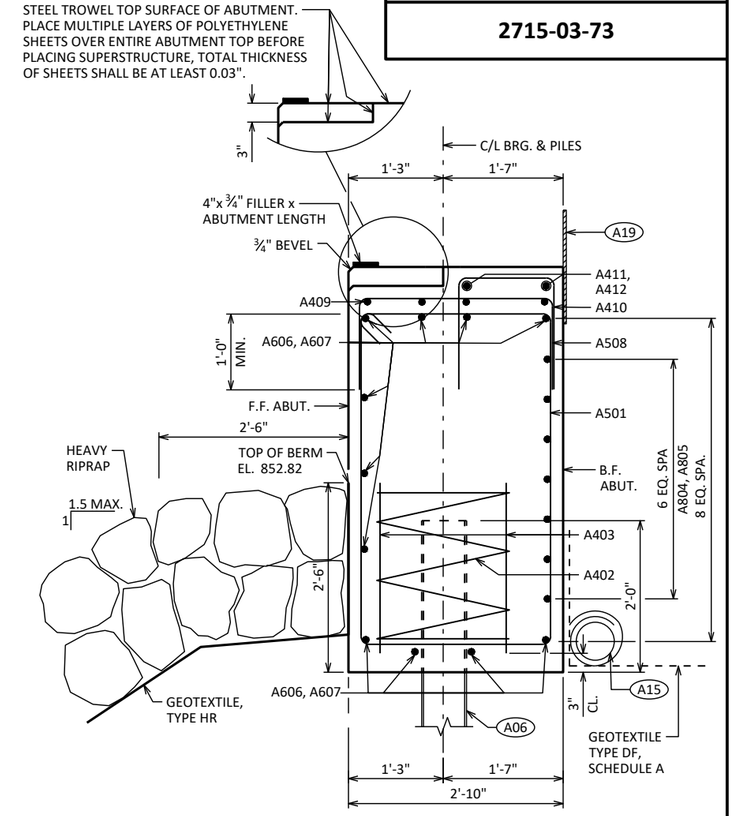
LOOKING WEST




## PLAN




## PILE PLAN




## SECTION THRU BODY

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 115'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) ¾" CORK FILLER ON VERTICAL SEAT FACES THAT RUN PARALLEL WITH ROADWAY.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

**WEST ABUT.**

SHEET 4
258

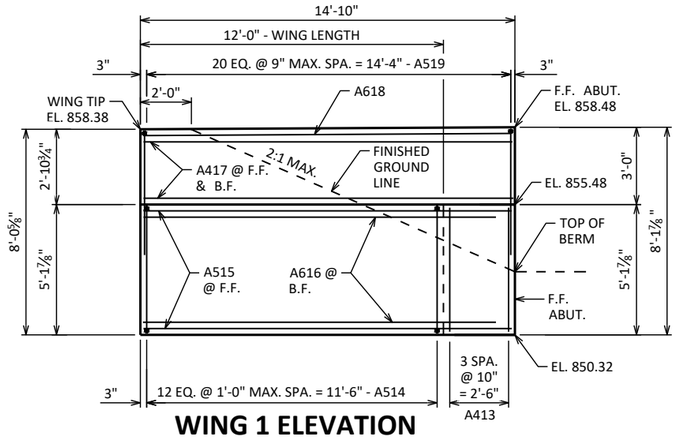
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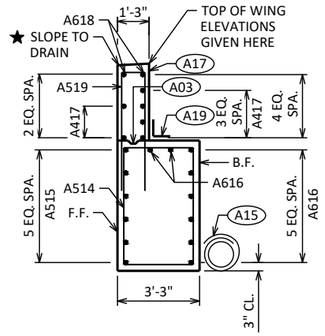
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STATE PROJECT NUMBER

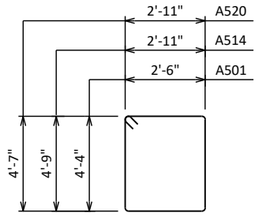
**2715-03-73**



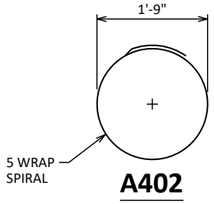

## WING 1 ELEVATION




## WING 1 SECTION




## A501, A514, A520

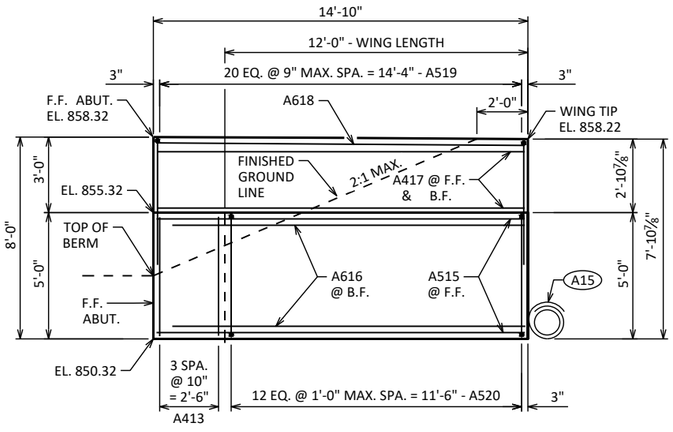



## A402

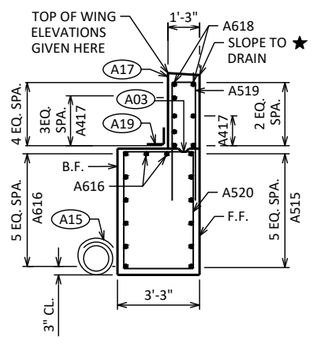
## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

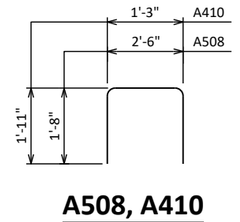
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| A501 | | 70 | 14'-4" | X | | BODY - STIRRUPS |
| A402 | | 9 | 28'-0" | X | | PILES - 1 PER BODY PILE |
| A403 | | 18 | 2'-3" | | | PILES - 2 PER BODY PILE |
| A804 | | 7 | 30'-10" | X | | BODY - HORIZ. - B.F. |
| A805 | | 7 | 33'-4" | X | | BODY - HORIZ. - B.F. |
| A606 | | 11 | 27'-6" | | | BODY - HORIZ. - TOP & BOT. - F.F. |
| A607 | | 11 | 32'-3" | | | BODY - HORIZ. - TOP & BOT. - F.F. |
| A508 | | 28 | 5'-7" | X | | BODY - VERT. |
| A409 | | 8 | 15'-6" | | | BODY - TOP - HORIZ. |
| A410 | | 38 | 4'-11" | X | | BODY - VERT. |
| A411 | | 2 | 25'-7" | | | BODY - TOP - HORIZ. |
| A412 | | 2 | 31'-0" | | | BODY - TOP - HORIZ. |
| A413 | X | 8 | 4'-7" | | | WINGS 1 & 2 - VERT. - END OF ABUT. - F.F |
| A514 | X | 13 | 16'-0" | X | | WING 1 - STIRRUP - LOWER WING |
| A515 | X | 12 | 14'-6" | | | WINGS 1 & 2 - HORIZ. - F.F. - LOWER WING |
| A616 | X | 16 | 14'-1" | | | WINGS 1 & 2 - HORIZ. - B.F. - LOWER WING |
| A417 | X | 12 | 14'-6" | | | WINGS 1 & 2 - HORIZ. - UPPER WINGS |
| A618 | X | 4 | 14'-6" | | | WINGS 1 & 2 - HORIZ. - UPPER WINGS - TOP |
| A519 | X | 42 | 10'-6" | X | | WINGS 1 & 2 - VERT. - UPPER WINGS |
| A520 | X | 13 | 15'-8" | X | | WING 2 - STIRRUP - LOWER WING |



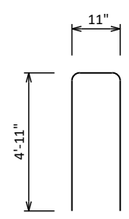

## WING 2 ELEVATION



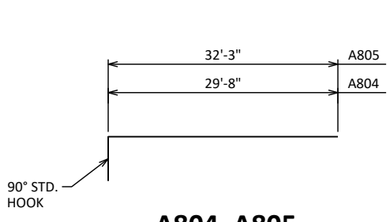

## WING 2 SECTION



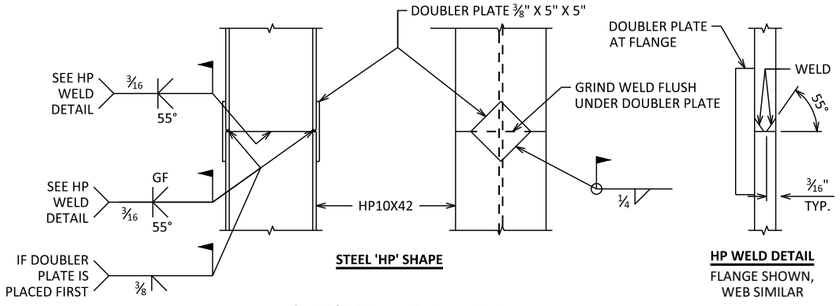

## A508, A410



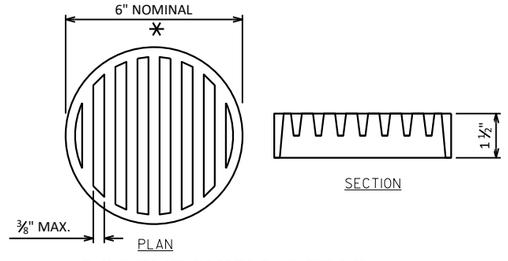

## A519




## A804, A805




## 'HP' PILE DETAILS




## RODENT SHIELD DETAIL

✳ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

★ SLOPE ⅛" PER FOOT

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

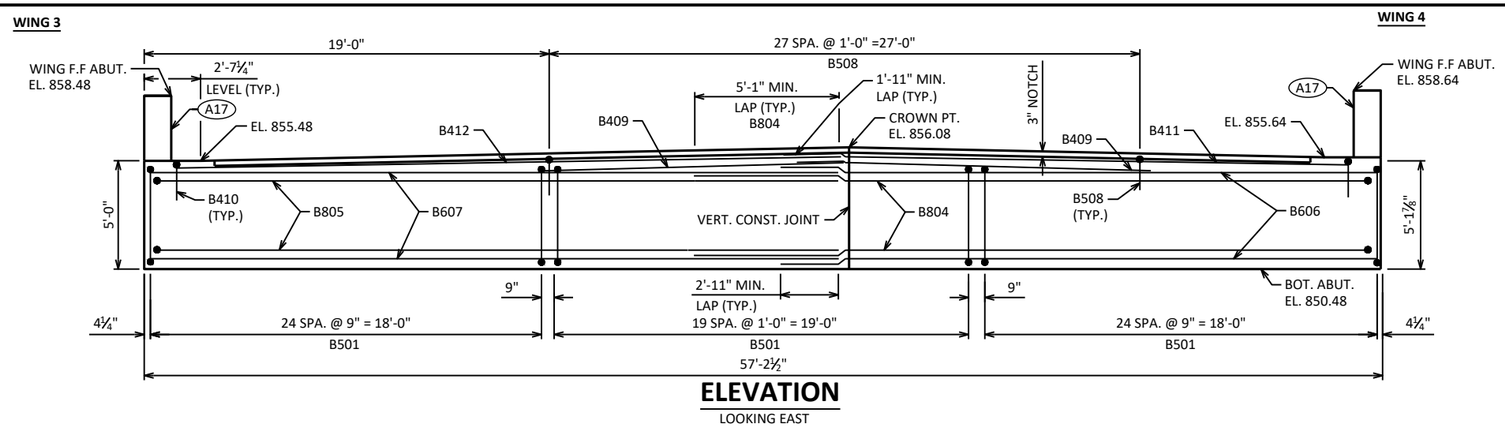
**WEST ABUT. DETAILS**

SHEET 5
259

SCALE =

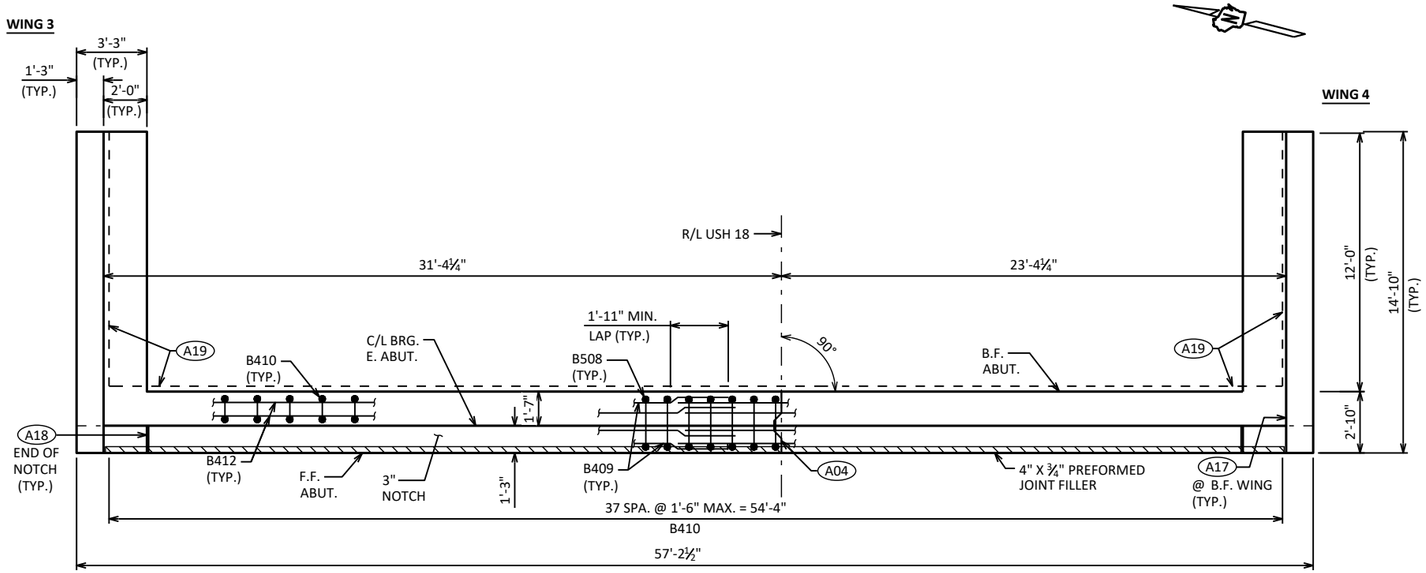
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8

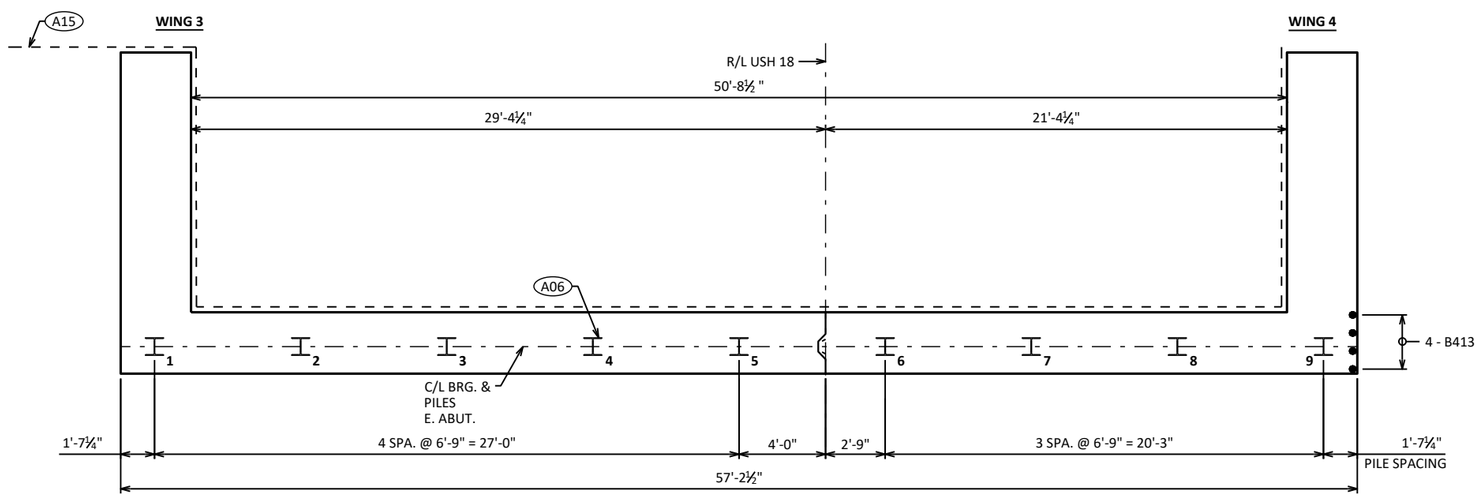



## ELEVATION

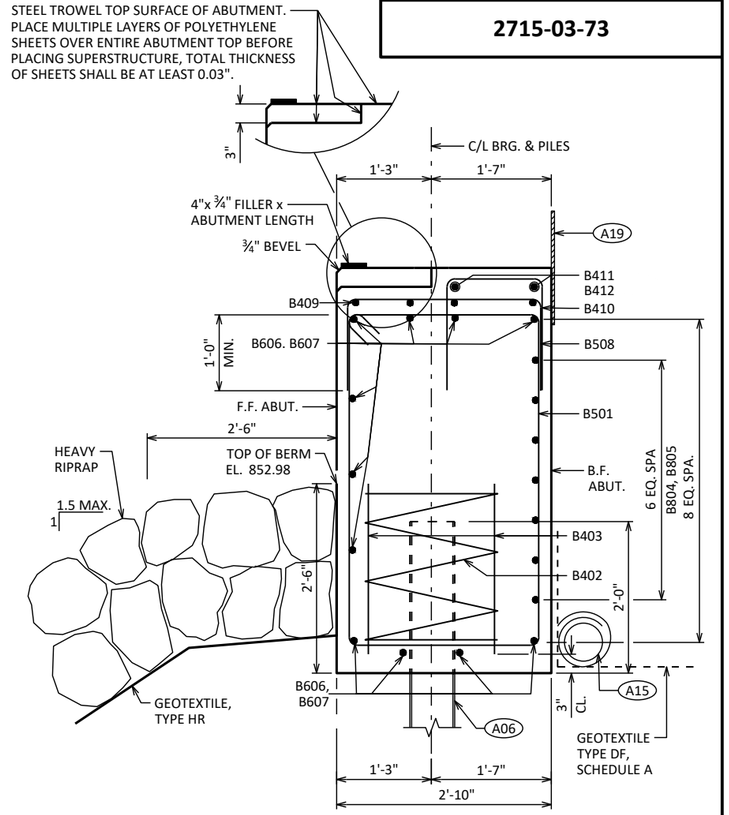
LOOKING EAST




## PLAN




## PILE PLAN




## SECTION THRU BODY

(A04) VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 125'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) ¾" CORK FILLER ON VERTICAL SEAT FACES THAT RUN PARALLEL WITH ROADWAY.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

STATE PROJECT NUMBER

**2715-03-73**

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

**EAST ABUT.**

SHEET 6
260

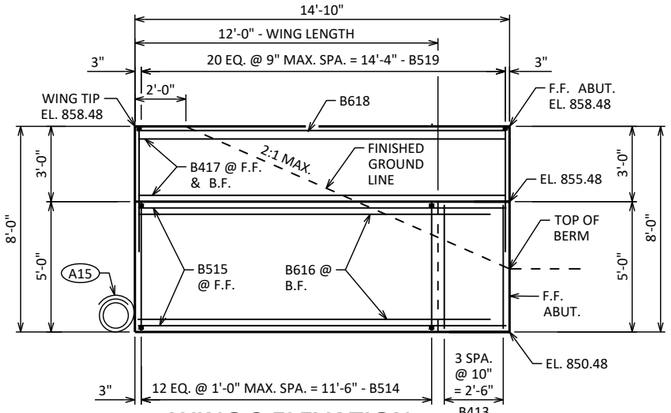
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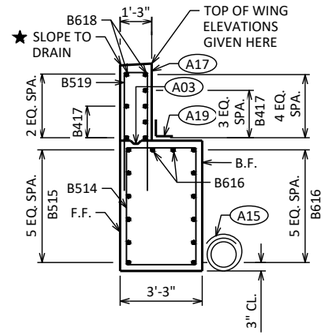
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STATE PROJECT NUMBER

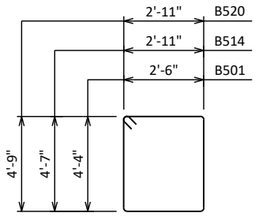
**2715-03-73**



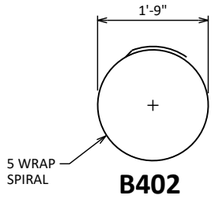

## WING 3 ELEVATION




## WING 3 SECTION




## B501, B514, B520




## B402

## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

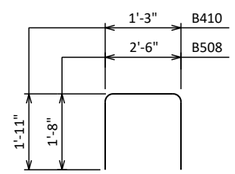
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| B501 | | 70 | 14'-4" | X | | BODY - STIRRUPS |
| B402 | | 9 | 28'-0" | X | | PILES - 1 PER BODY PILE |
| B403 | | 18 | 2'-3" | | | PILES - 2 PER BODY PILE |
| B804 | | 7 | 30'-10" | X | | BODY - HORIZ. - B.F. |
| B805 | | 7 | 33'-4" | X | | BODY - HORIZ. - B.F. |
| B606 | | 11 | 27'-6" | | | BODY - HORIZ. - TOP & BOT. - F.F. |
| B607 | | 11 | 32'-3" | | | BODY - HORIZ. - TOP & BOT. - F.F. |
| B508 | | 28 | 5'-7" | X | | BODY - VERT. |
| B409 | | 8 | 15'-6" | | | BODY - TOP - HORIZ. |
| B410 | | 38 | 4'-11" | X | | BODY - VERT. |
| B411 | | 2 | 25'-7" | | | BODY - TOP - HORIZ. |
| B412 | | 2 | 31'-0" | | | BODY - TOP - HORIZ. |
| B413 | X | 8 | 4'-7" | | | WINGS 3 & 4 - VERT. - END OF ABUT. - F.F |
| B514 | X | 13 | 15'-8" | X | | WING 3 - STIRRUP - LOWER WING |
| B515 | X | 12 | 14'-6" | | | WINGS 3 & 4 - HORIZ. - F.F. - LOWER WING |
| B616 | X | 16 | 14'-1" | | | WINGS 3 & 4 - HORIZ. - B.F. - LOWER WING |
| B417 | X | 12 | 14'-6" | | | WINGS 3 & 4 - HORIZ. - UPPER WINGS |
| B618 | X | 4 | 14'-6" | | | WINGS 3 & 4 - HORIZ. - UPPER WINGS - TOP |
| B519 | X | 42 | 10'-6" | X | | WINGS 3 & 4 - VERT. - UPPER WINGS |
| B520 | X | 13 | 16'-0" | X | | WING 4 - STIRRUP - LOWER WING |



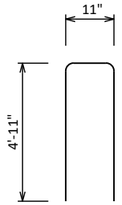

## WING 4 ELEVATION




## WING 4 SECTION




## B508, B410




## B519




## B804, B805




## 'HP' PILE DETAILS




## RODENT SHIELD DETAIL

✳ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

★ SLOPE ⅛" PER FOOT

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

**EAST ABUT. DETAILS**

SHEET 7
261

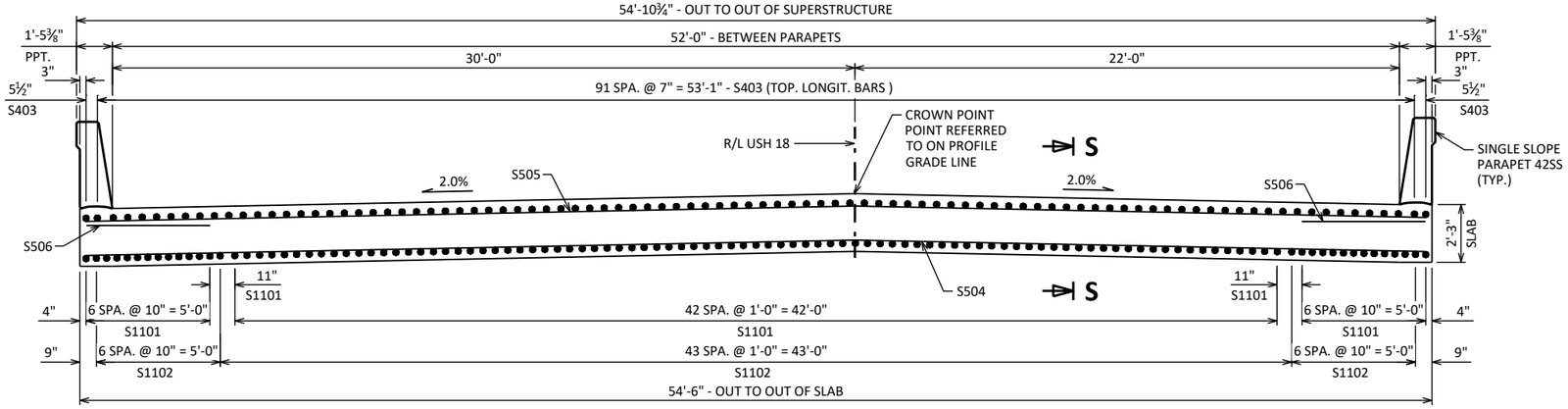
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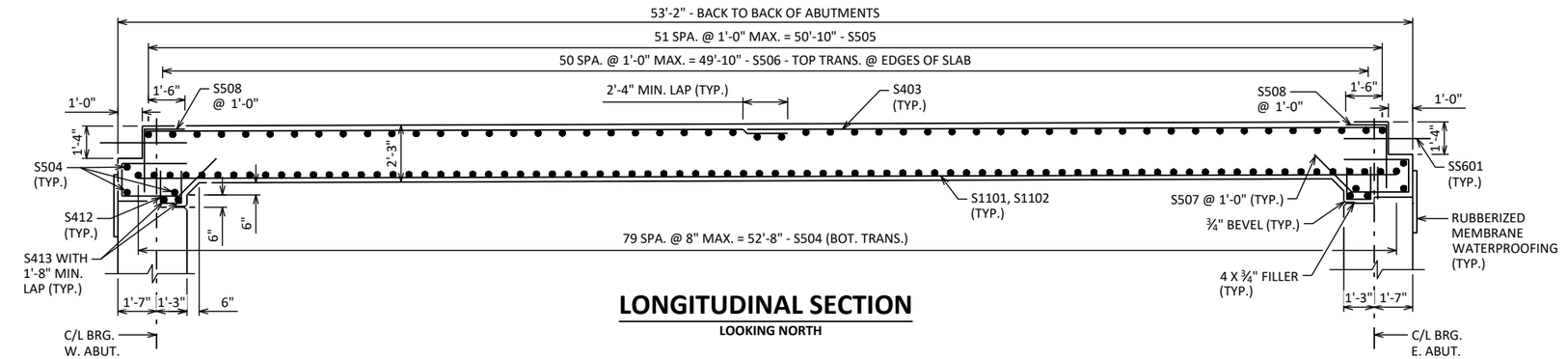
STATE PROJECT NUMBER

**2715-03-73**



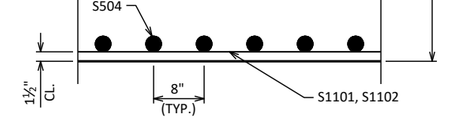

## CROSS SECTION THRU ROADWAY

**LOOKING EAST**

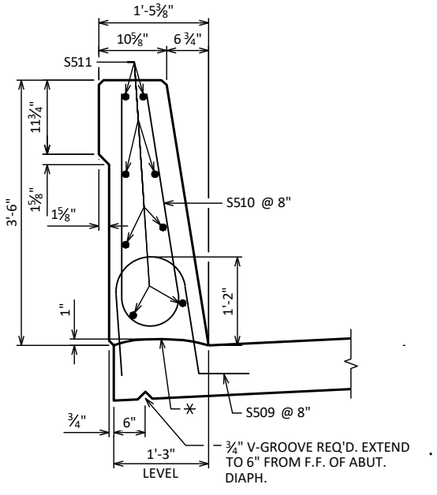



## LONGITUDINAL SECTION

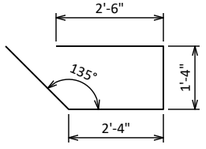
**LOOKING NORTH**




## SECTION S-S



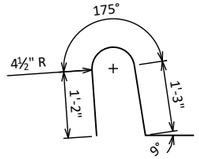

## SECTION THRU PARAPET ON BRIDGE



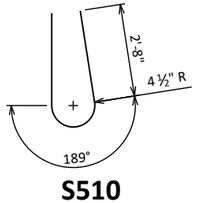

**S507**



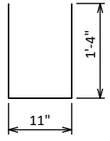

**S508**




**S509**




**S510**




**S412**

## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| S1101 | X | 57 | 52'-10" | | | SLAB - LONG. - BOT. |
| S1102 | X | 56 | 41'-2" | | | SLAB - LONG. - BOT. |
| S403 | X | 188 | 26'-7" | | | SLAB - LONG. - TOP |
| S504 | X | 86 | 54'-2" | | | SLAB - TRANS - BOT. |
| S505 | X | 52 | 54'-2" | | | SLAB - TRANS - TOP |
| S506 | X | 102 | 5'-0" | | | SLAB - TRANS. - EDGE OF SLAB - TOP |
| S507 | X | 110 | 8'-0" | X | | SLAB - ABUT. - VERT. |
| S508 | X | 110 | 4'-1" | X | | SLAB - ABUT. - VERT. |
| S509 | X | 156 | 4'-5" | X | | PARAPET/SLAB - VERT. |
| S510 | X | 156 | 6'-8" | X | | PARAPET - VERT. |
| S511 | X | 16 | 50'-10" | | | PARAPET - HORIZ. |
| S412 | X | 102 | 3'-6" | X | | SLAB - ABUTMENTS - BOT. VERT. |
| S413 | X | 8 | 26'-3" | | | SLAB - ABUTMENTS - BOT. HORIZ. |

| | | | | | | |
|---|---|---|---|---|---|---|
| SS601 | | 110 | 3'-0" | | | STRUCTURAL SLAB TO APPROACH SLAB |

∗ CONST. JOINT - STRIKE OFF AS SHOWN

NOTES:

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+)

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

**SUPERSTRUCTURE CROSS SECTION**

SHEET 8
262

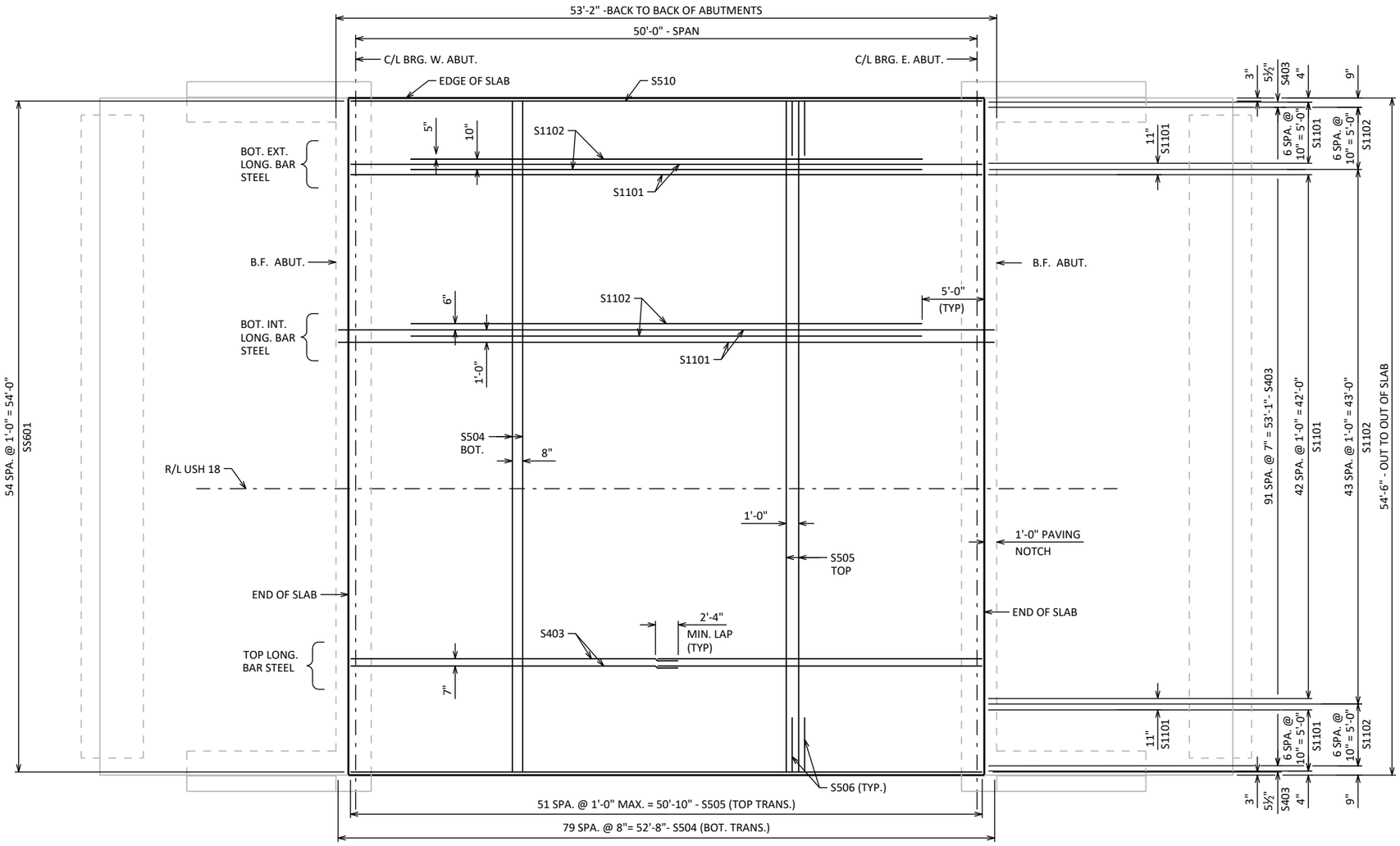
SCALE =

8

8

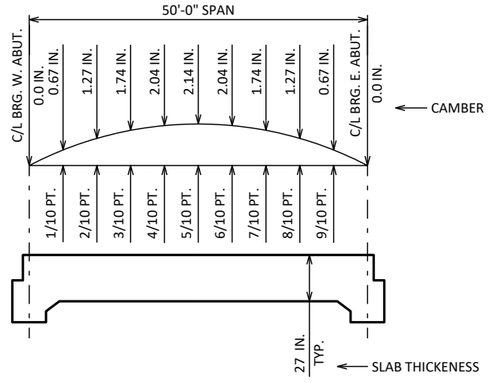
STATE PROJECT NUMBER

**2715-03-73**




## SUPERSTRUCTURE PLAN






## CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS.
CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.
PARAPETS, SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

| | |
|---|---|
| | TOP OF SLAB ELEVATION AT FINAL GRADE |
| LESS | SLAB THICKNESS |
| PLUS | CAMBER |
| PLUS | FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR) |
| EQUALS | TOP OF SLAB FALSEWORK ELEVATION |

## SURVEY TOP OF SLAB ELEVATIONS

| LOCATION | C/L BRG WEST ABUTMENT | 5/10 PT. | C/L BRG EAST ABUTMENT |
|---|---|---|---|
| N. GUTTER | | | |
| CROWN OR R/L | | | |
| S. GUTTER | | | |

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR C/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

## TOP OF SLAB ELEVATIONS

| LOCATION | C/L BRG. W. ABUT. | 1/10 PT. | 2/10 PT. | 3/10 PT. | 4/10 PT. | 5/10 PT. | 6/10 PT. | 7/10 PT. | 8/10 PT. | 9/10 PT. | C/L BRG. E. ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N. EDGE OF DECK/GUTTER | 858.31 | 858.34 | 858.37 | 858.39 | 858.42 | 858.43 | 858.45 | 858.46 | 858.47 | 858.48 | 858.48 |
| CROWN OR R/L | 858.91 | 858.94 | 858.97 | 858.99 | 859.02 | 859.03 | 859.05 | 859.06 | 859.07 | 859.08 | 859.08 |
| S. EDGE OF DECK/GUTTER | 858.47 | 858.50 | 858.53 | 858.55 | 858.58 | 858.59 | 858.61 | 858.62 | 858.63 | 858.64 | 858.64 |

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

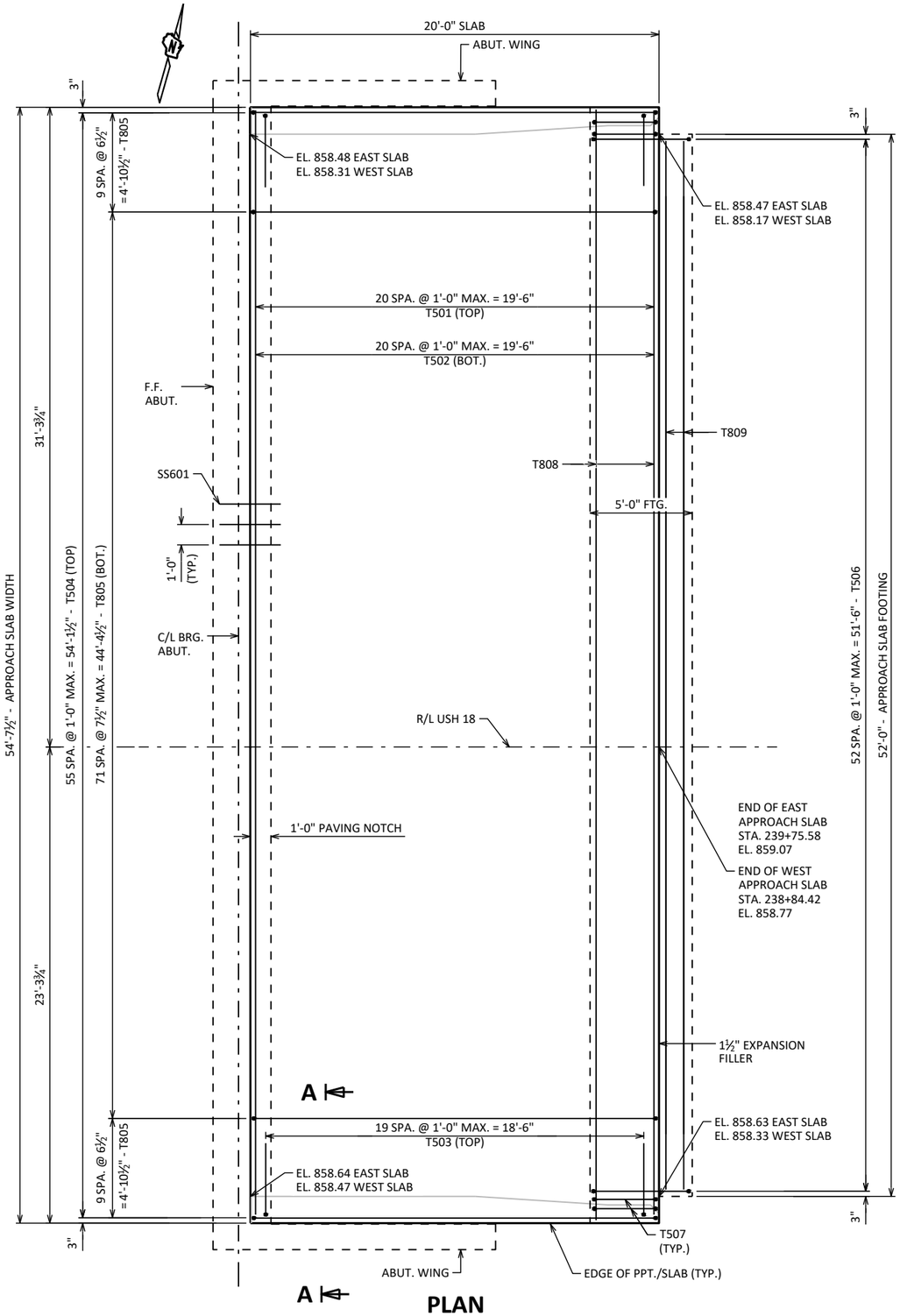
**SUPERSTRUCTURE PLAN**

SHEET 9
263

SCALE = 8.00

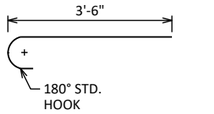
STATE PROJECT NUMBER

**2715-03-73**

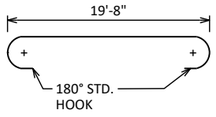



## PLAN

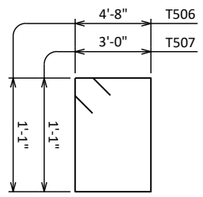
EAST STRUCTURAL APPROACH SLAB SHOWN
WEST STRUCTURAL APPROACH SLAB SIMILAR




## T503




## T805

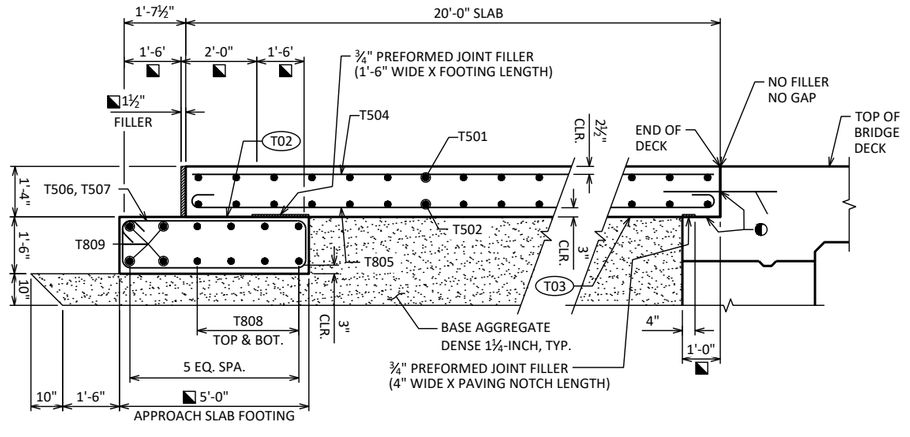



## T506, T507

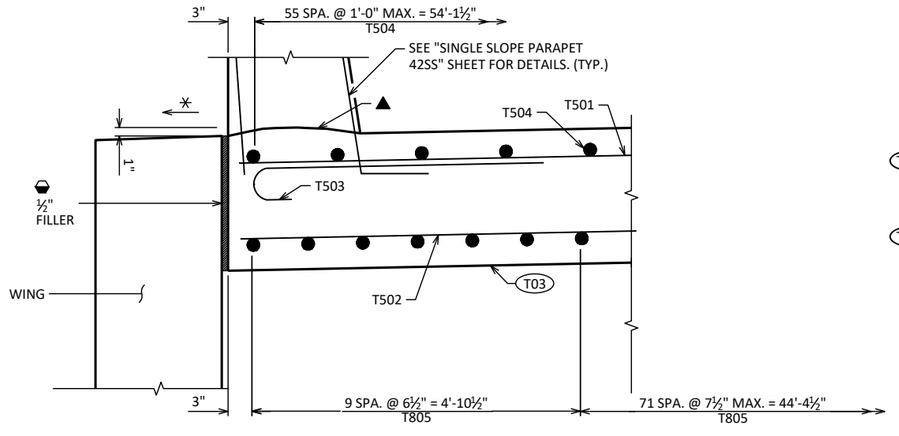
## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | WEST ABUT. | EAST ABUT. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|
| T501 | X | 21 | 21 | 54'-3" | | | APPROACH SLAB TRANS. - TOP |
| T502 | X | 21 | 21 | 54'-3" | | | APPROACH SLAB TRANS. - BOT |
| T503 | X | 40 | 40 | 4'-1" | X | | APPROACH SLAB TRANS. - TOP - WING |
| T504 | X | 56 | 56 | 19'-8" | | | APPROACH SLAB LONG. - TOP |
| T805 | X | 90 | 90 | 21'-6" | X | | APPROACH SLAB LONG. - BOT. |
| T506 | X | 53 | 53 | 12'-2" | X | | APPROACH SLAB FTG. - STIRRUP |
| T507 | X | 4 | 4 | 8'-10" | X | | APPROACH SLAB FTG. - STIRRUP |
| T808 | X | 8 | 8 | 54'-3" | | | APPROACH SLAB FTG. - TRANS. |
| T809 | X | 4 | 4 | 51'-8" | | | APPROACH SLAB FTG. - TRANS. |




## SECTION THRU APPROACH SLAB




## SECTION A-A

- SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURAFCE OF CONCRETE).
- ▲ CONST. JOINT - STRIKE OFF AS SHOWN
- ✳ SLOPE TO DRAIN
- APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.
- MEASURED NORMAL TO ABUTMENT.
- (TO2) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- (TO3) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

**STRUCTURAL APPROACH SLABS**

SHEET 10
264

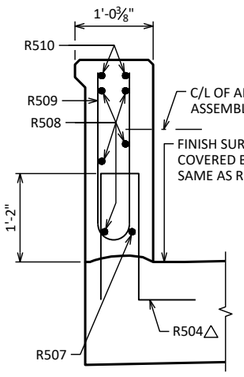
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8

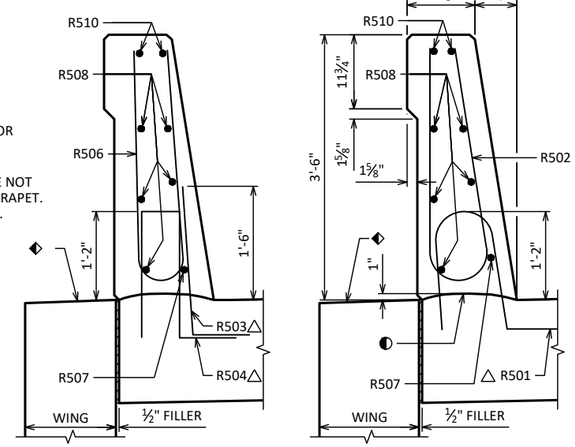
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STATE PROJECT NUMBER

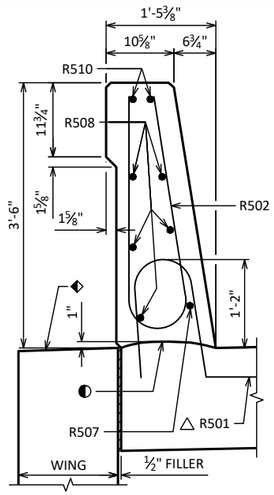
**2715-03-73**



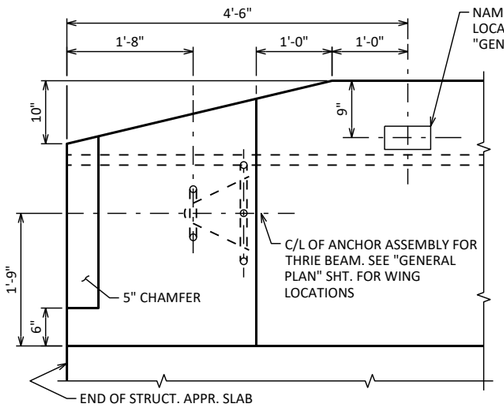

## SECTION A-A




## SECTION B-B




## SECTION C-C




## PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

## BILL OF BARS

FOR STRUCTURAL APPOACH SLAB PARAPETS

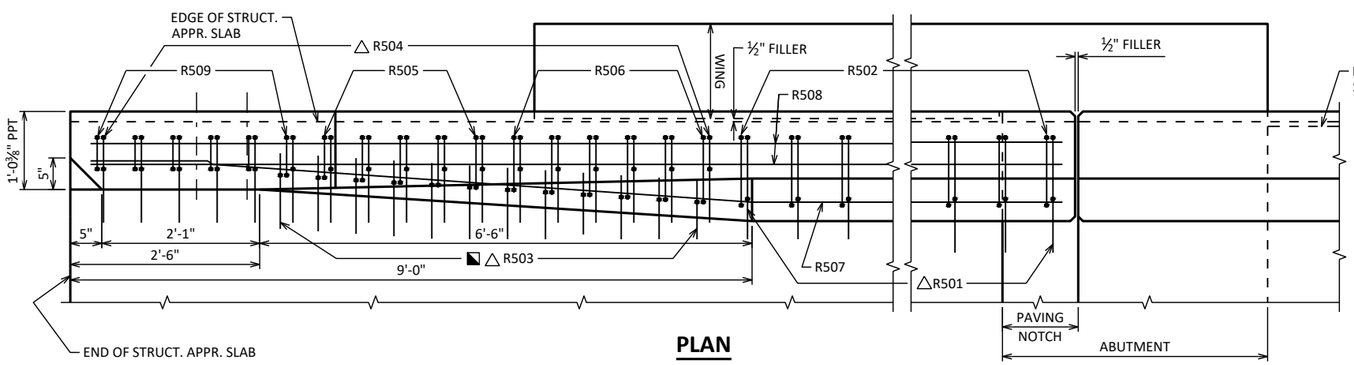
| BAR MARK | COAT | WEST ABUT. | EAST ABUT. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|
| R501 | X | 34 | 34 | 4'-5" | X | | PARAPET VERT. |
| R502 | X | 34 | 34 | 6'-8" | X | | PARAPET VERT. |
| R503 | X | 24 | 24 | 2'-9" | X | | PARAPET VERT. |
| R504 | X | 34 | 34 | 4'-4" | X | | PARAPET VERT. |
| R505 | X | 10 | 10 | 6'-5" | X | | PARAPET VERT. |
| R506 | X | 12 | 12 | 6'-6" | X | | PARAPET VERT. |
| R507 | X | 2 | 2 | 19'-8" | X | | PARAPET HORIZ. |
| R508 | X | 10 | 10 | 19'-8" | | | PARAPET HORIZ. |
| R509 | X | 12 | 12 | 5'-5" | X | ⚠ | PARAPET VERT. |
| R510 | X | 4 | 4 | 19'-8" | X | | PARAPET HORIZ. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

## BAR SERIES TABLE

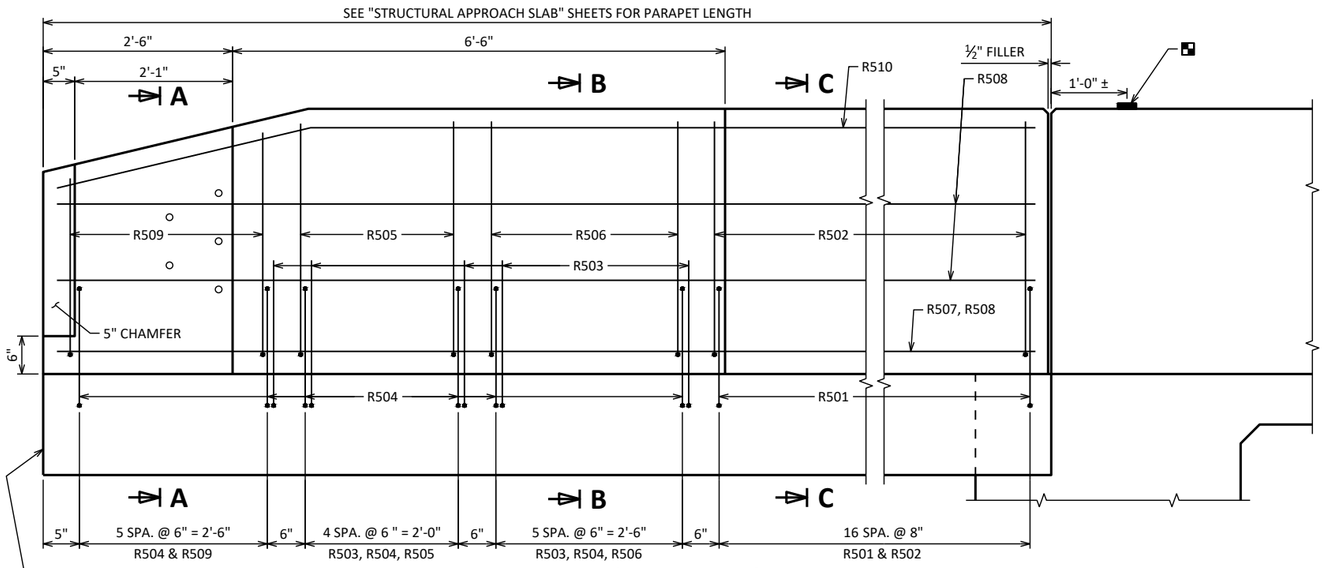
BUNDLE AND TAG EACH SERIES SEPARATELY.

| BAR MARK | NO. REQ'D. | LENGTH |
|---|---|---|
| R509 | 4 SERIES OF 6 | 4'-9" TO 6'-1" |



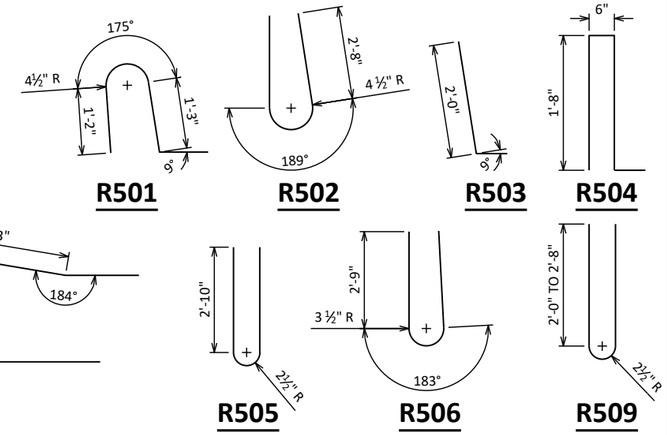

## PLAN

NW CORNER SHOWN, OTHERS SIMILAR

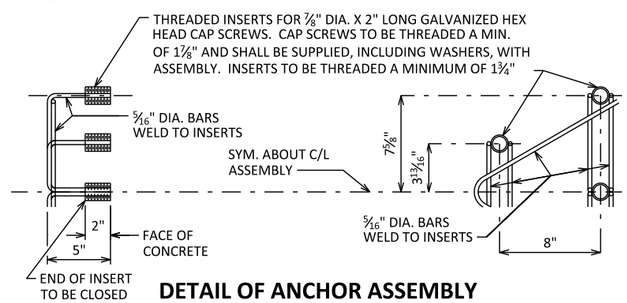



## INSIDE ELEVATION

NW CORNER SHOWN, OTHERS SIMILAR
WING & STRUCTURAL APPROACH SLAB FOOTING NOT SHOWN FOR CLARITY




■ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.




## DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

◐ CONST. JOINT - STRIKE OFF AS SHOWN

◆ SLOPE FOR DRAINAGE

◪ USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

△ R501, R503, AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

| NO. | DATE | REVISION | BY |
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| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

**SINGLE SLOPE PARAPET 42SS**

SHEET 11
265

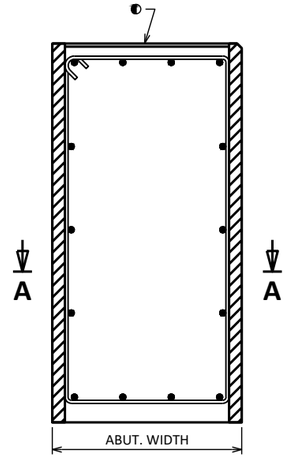
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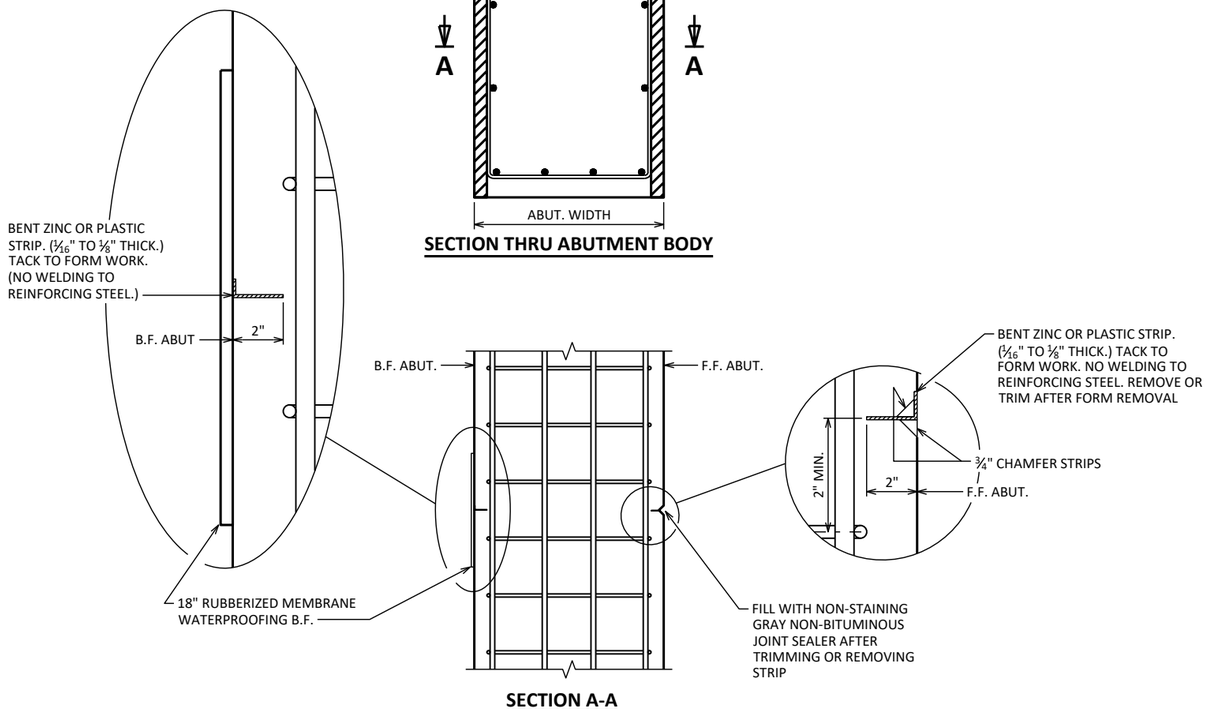
8

STATE PROJECT NUMBER

**2715-03-73**




**SECTION THRU ABUTMENT BODY**




**SECTION A-A**

# ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

## NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATIVE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING JOINT IS NOT ALLOWED.

◐ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY ½" DEEP.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-378**

DRAWN BY MJH | PLANS CK'D WAH

**ALTERNATE CONSTRUCTION JOINT**

SHEET 12
266

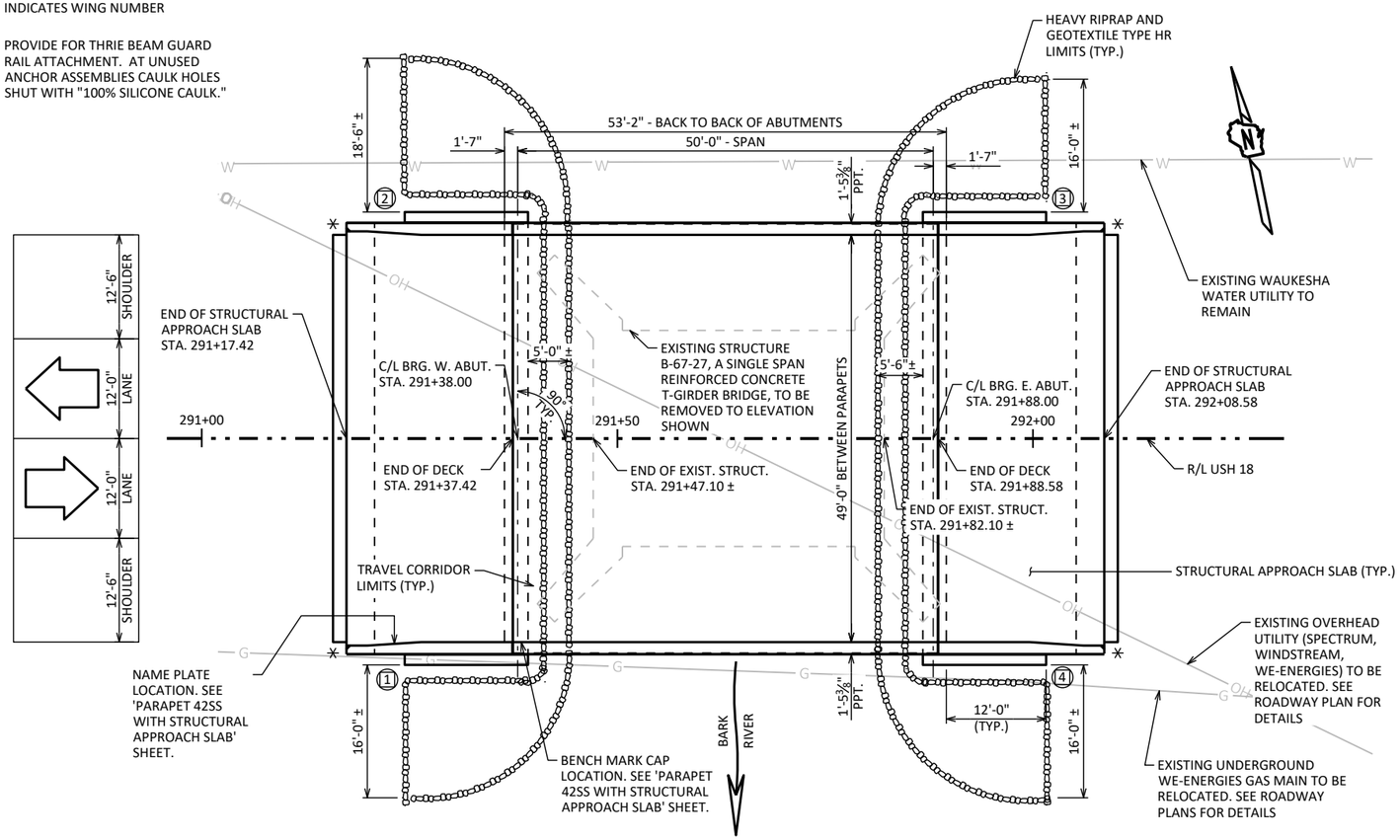
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8

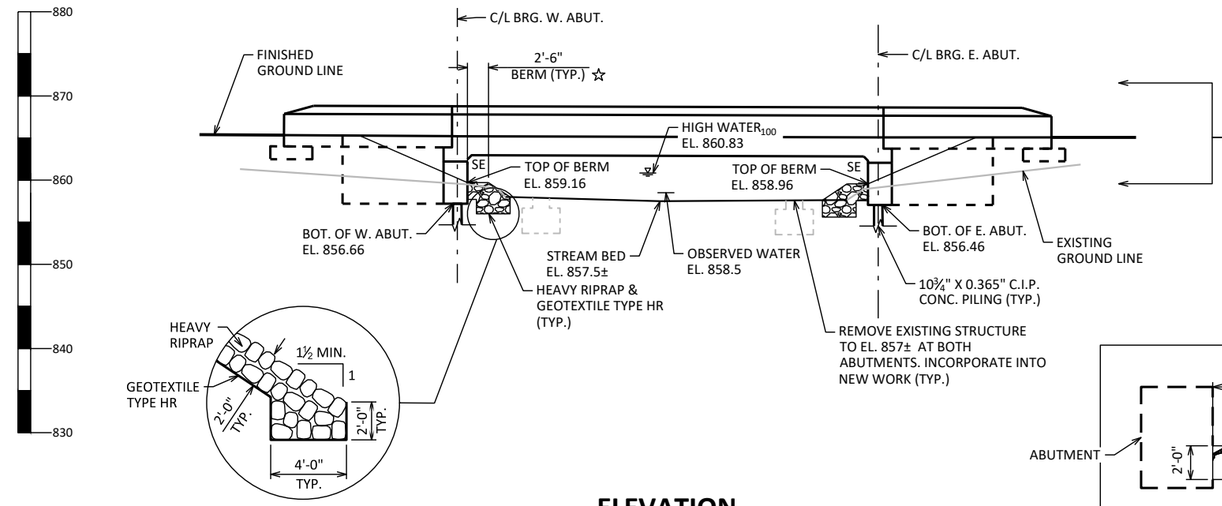
(1) INDICATES WING NUMBER

✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK."




## PLAN

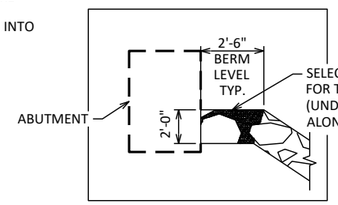
SINGLE SPAN FLAT SLAB

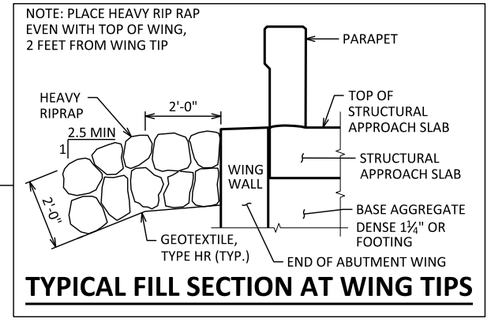



## ELEVATION

NORMAL TO BARK RIVER
LOOKING UPSTREAM

☆ LIMITS OF SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR, TYPICAL BOTH SIDES




## TYPICAL FILL SECTION AT WING TIPS

## LIST OF DRAWINGS:

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. STRUCTURAL APPROACH SLAB
11. PARAPET 42SS WITH STRUCTURAL APPROACH SLAB
12. ALTERNATE CONSTRUCTION JOINT

## DESIGN DATA

**LIVE LOAD:**

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.24
OPERATING RATING: RF = 1.61
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

**MATERIAL PROPERTIES:**

CONCRETE MASONRY:
SUPERSTRUCTURE & STRUCTURAL APPROACH SLAB — $f'_c$ = 4,000 PSI
ALL OTHER — $f'_c$ = 3,500 PSI

BAR STEEL REINFORCEMENT
GRADE 60 — $f_y$ = 60,000 PSI
STAINLESS, GRADE 60 — $f_y$ = 60,000 PSI

## FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 10¾" X 0.365" CIP PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 150 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 110'-0" LONG AT WEST ABUTMENT AND 115'-0" LONG AT EAST ABUTMENT

**THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE PILE CAPACITY.

## HYDRAULIC DATA

**100-YEAR FREQUENCY:**

$Q_{100}$= 480 C.F.S.
$V_{100}$= 3.6 F.P.S.
$HW_{100}$= EL. 860.83
WATERWAY AREA = 133 SQ. FT.
DRAINAGE AREA = 43.7 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

**2-YEAR FREQUENCY:**

$Q_{100}$= 200 C.F.S.
$V_{100}$= 2.5 F.P.S.
$HW_{100}$= EL. 859.56

## TRAFFIC DATA

**USH 18:**

ADT = 7,400 (2044)
R.D.S. = 60 MPH

STATE PROJECT NUMBER

**2715-03-73**

**STRUCTURE DESIGN CONTACTS:**

KYLE BUSCH (608) 267-0465
IAN LINDLOFF (608) 261-2557

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

WISCONSIN DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

ACCEPTED KHB 3/10/23
CHIEF STRUCTURES DESIGN ENGINEER — DATE

**STRUCTURE B-67-379**

USH 18 OVER BARK RIVER

| COUNTY | VILLAGE |
|---|---|
| WAUKESHA | SUMMIT |

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

| DESIGNED BY | DESIGNED CK'D | DRAWN BY | PLANS CK'D |
|---|---|---|---|
| IDL | WAH | IDL | WAH |

**GENERAL PLAN**

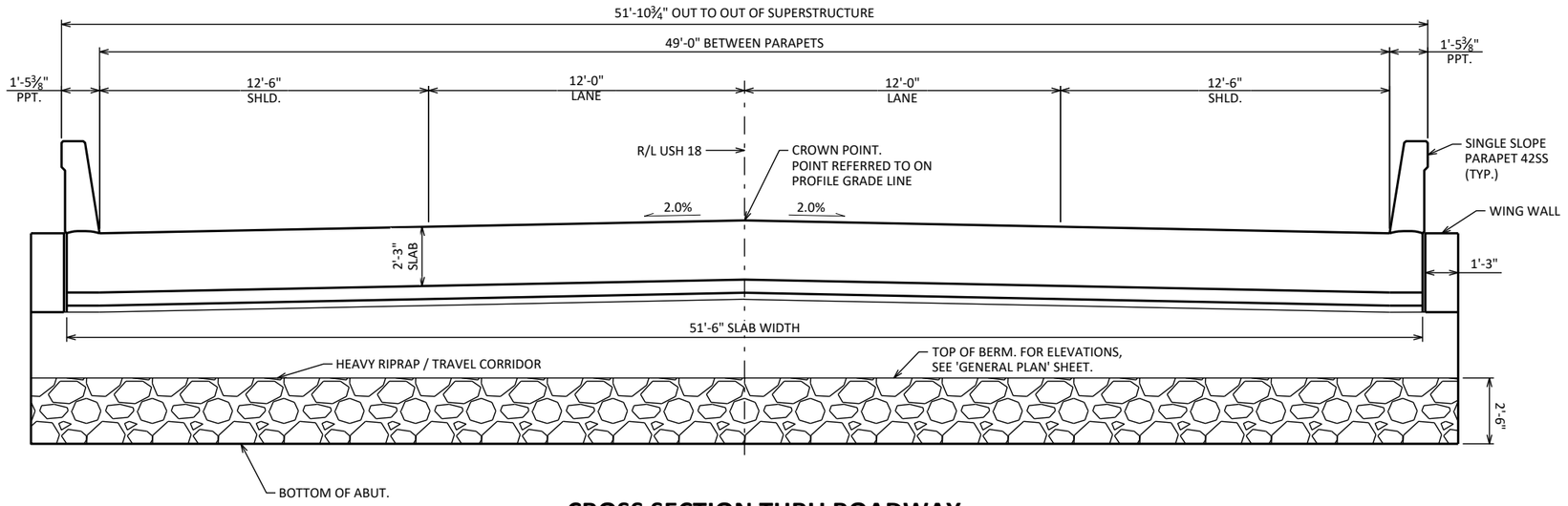
SHEET 1 OF 12
267

SCALE = 1.50

I.D. 2715-03-03D DATE: MAR 2023

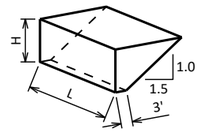
8

8




## CROSS SECTION THRU ROADWAY

(LOOKING EAST)




## ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
$V_{CF}$ = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
$V_{CY}$ = $V_{CF}$(EF)/27
$V_{TON}$ = $V_{CY}$(2.0)

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-67-379" SHALL BE THE EXISTING GROUNDLINE AND EXISTING STREAMBED.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A. ALSO EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

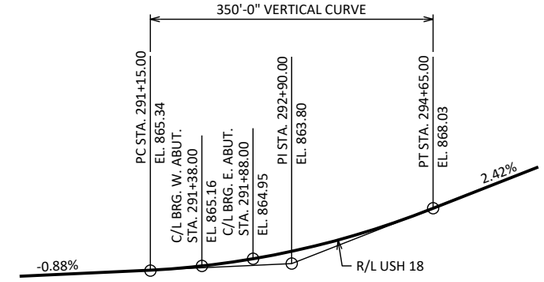
PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE "HR" TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

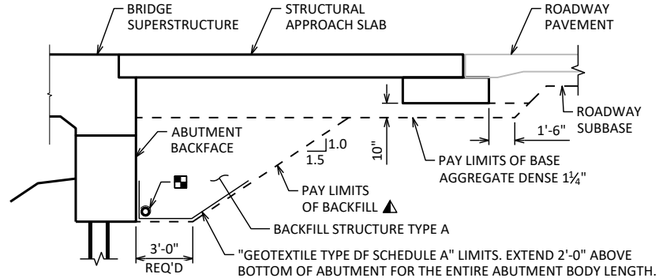
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.




## PROFILE GRADE LINE

## TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | SUPER. | W. STRUCT. APP. SLAB | W. ABUT. | E. ABUT. | E. STRUCT. APP. SLAB | TOTALS |
|---|---|---|---|---|---|---|---|---|
| 203.0270 | REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE B-67-27 | EACH | ------- | ------- | ------- | ------- | ------- | 1 |
| 206.1001 | EXCAVATION FOR STRUCTURES BRIDGES B-67-379 | EACH | ------- | ------- | ------- | ------- | ------- | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | ------- | ------- | 119 | 119 | ------- | 238 |
| 305.0120 | BASE AGGREGATE DENSE 1 1/4 INCH | TON | ------- | 170 | ------- | ------- | 170 | 340 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 247.7 | 70.8 | 47.4 | 47.4 | 70.8 | 484 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 305 | 109 | ------- | ------- | 109 | 523 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 51 | 20 | ------- | ------- | 20 | 91 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | ------- | ------- | 3,680 | 3,680 | ------- | 7,360 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 42,700 | 11,890 | 1,630 | 1,630 | 11,890 | 69,740 |
| 505.0800.S | BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES | LB | 470 | ------- | ------- | ------- | ------- | 470 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | ------- | ------- | 13 | 13 | ------- | 26 |
| 550.2106 | PILING CIP CONCRETE 10 3/4 INCH X 0.365-INCH | LF | ------- | ------- | 1,210 | 1,265 | ------- | 2,475 |
| 606.0300 | RIPRAP HEAVY | CY | ------- | ------- | 68 | 67 | ------- | 135 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | ------- | ------- | 91 | 91 | ------- | 182 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | ------- | 2 | ------- | ------- | 2 | 4 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | ------- | ------- | 48 | 48 | ------- | 96 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | ------- | ------- | 117 | 120 | ------- | 237 |
| SPV.0195 | SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR | TON | ------- | ------- | 16 | 16 | ------- | 32 |
| | | | | | | | | |
| | | | | | | | | |
| | NON-BID ITEMS | | | | | | | |
| | | | | | | | | |
| | FILLER | SIZE | ------- | ------- | ------- | ------- | ------- | 1/2", 3/4", 1 1/2" |




## TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

▪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

STATE PROJECT NUMBER

**2715-03-73**

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

**CROSS SECTION & QUANTITIES**

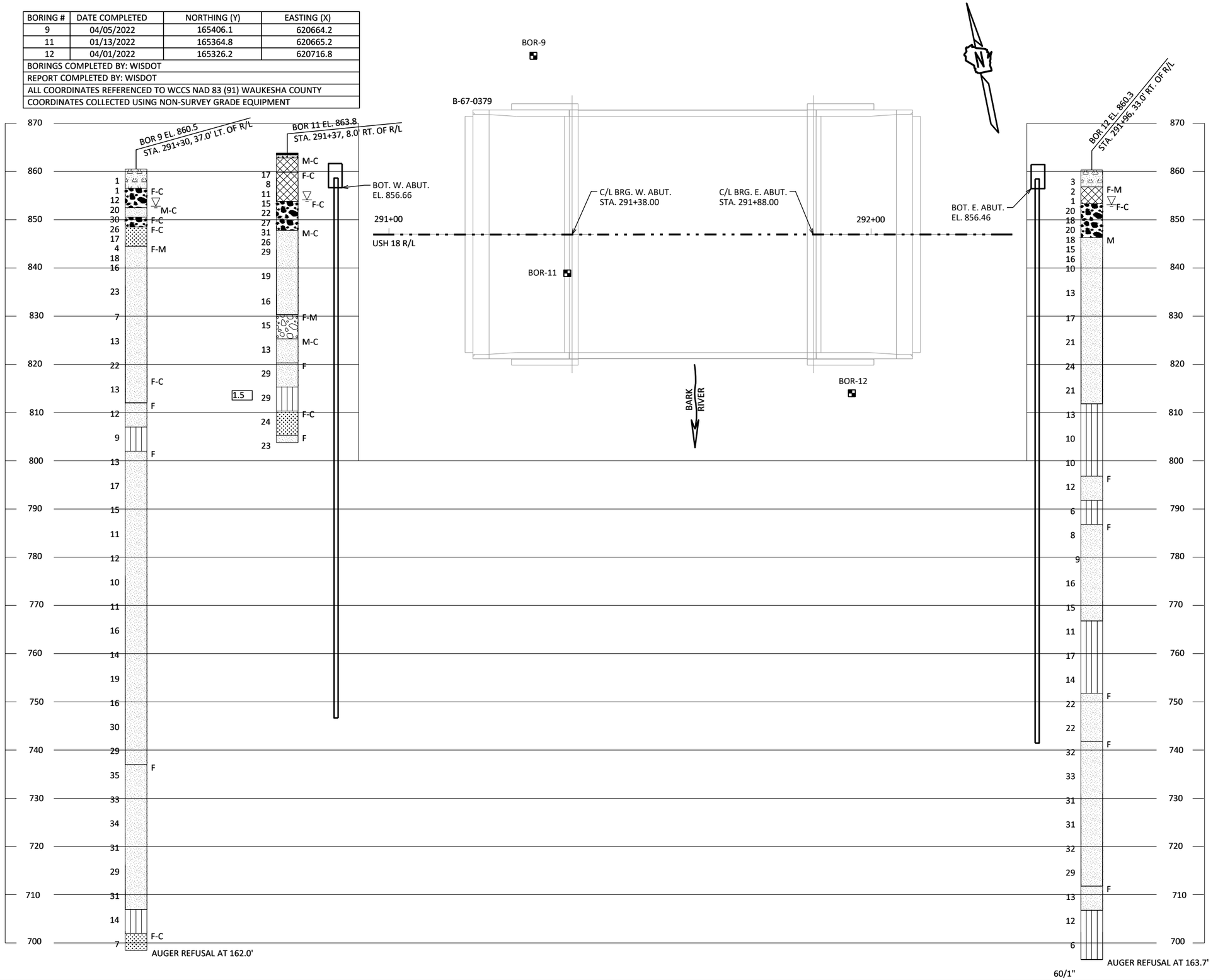
SHEET 2
268

SCALE = 5.50

8

8

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 9 | 04/05/2022 | 165406.1 | 620664.2 |
| 11 | 01/13/2022 | 165364.8 | 620665.2 |
| 12 | 04/01/2022 | 165326.2 | 620716.8 |
| BORINGS COMPLETED BY: WISDOT | | | |
| REPORT COMPLETED BY: WISDOT | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83 (91) WAUKESHA COUNTY | | | |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT | | | |



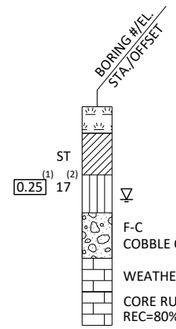

STATE PROJECT NUMBER

**2715-03-73**

**MATERIAL SYMBOLS**

ASPHALT · TOPSOIL · PEAT
CONCRETE · FILL · GRAVEL
SAND · CLAY · SILT
BOULDERS OR COBBLES · LIMESTONE · BEDROCK (UNKNOWN)
SHALE · SANDSTONE · IGNEOUS/ META

**LEGEND OF BORING**




(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

**GROUND WATER ELEVATION**

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

**ABBREVIATIONS**

F-FINE · M-MEDIUM · C-COARSE · ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY JJ/IDL · PLANS CK'D WAH

**SUBSURFACE EXPLORATION**

SHEET 3
269

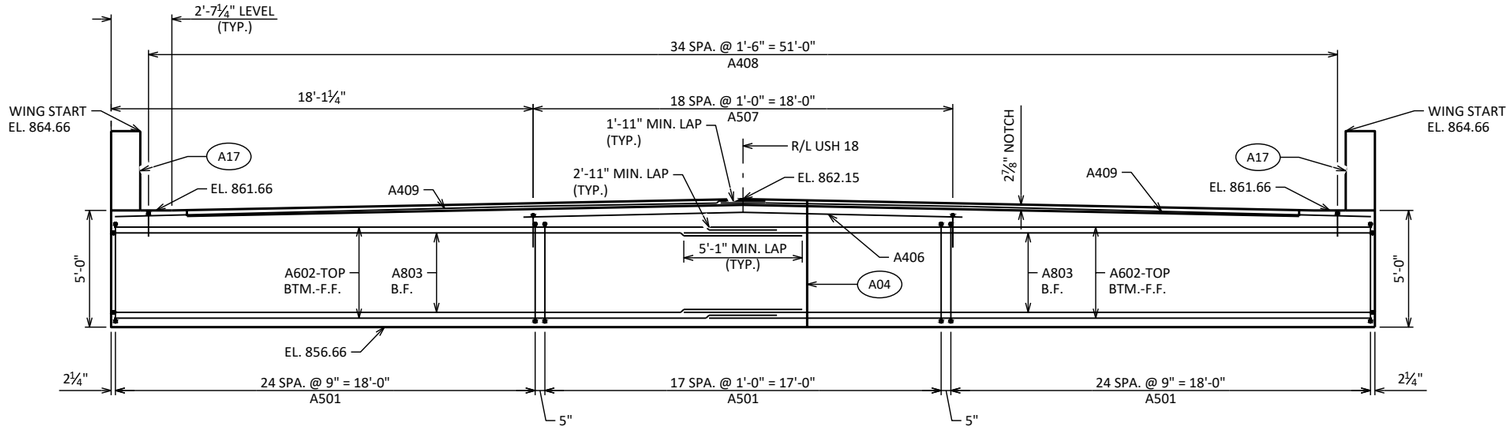
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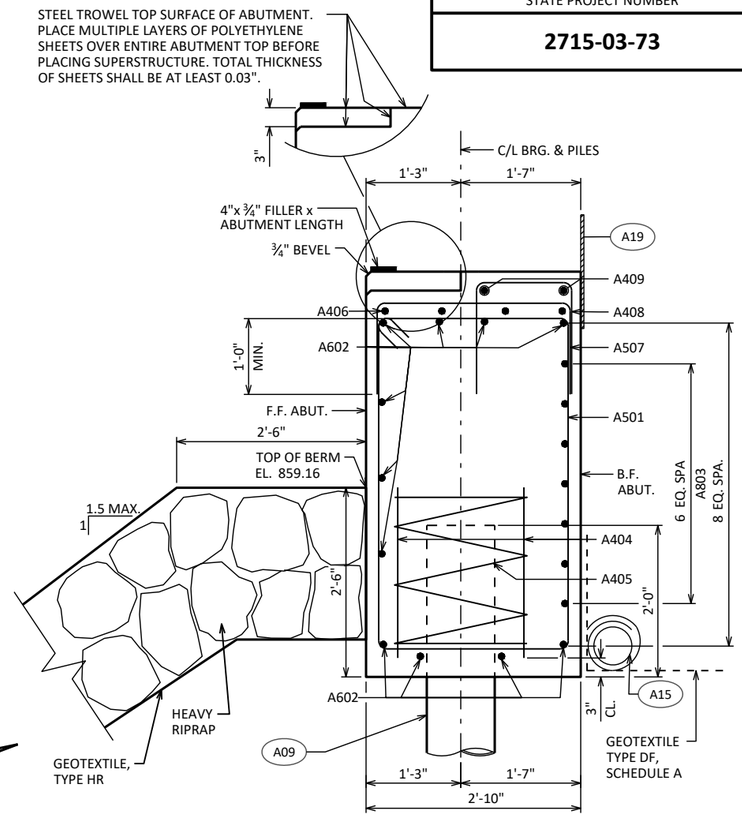
STATE PROJECT NUMBER

**2715-03-73**

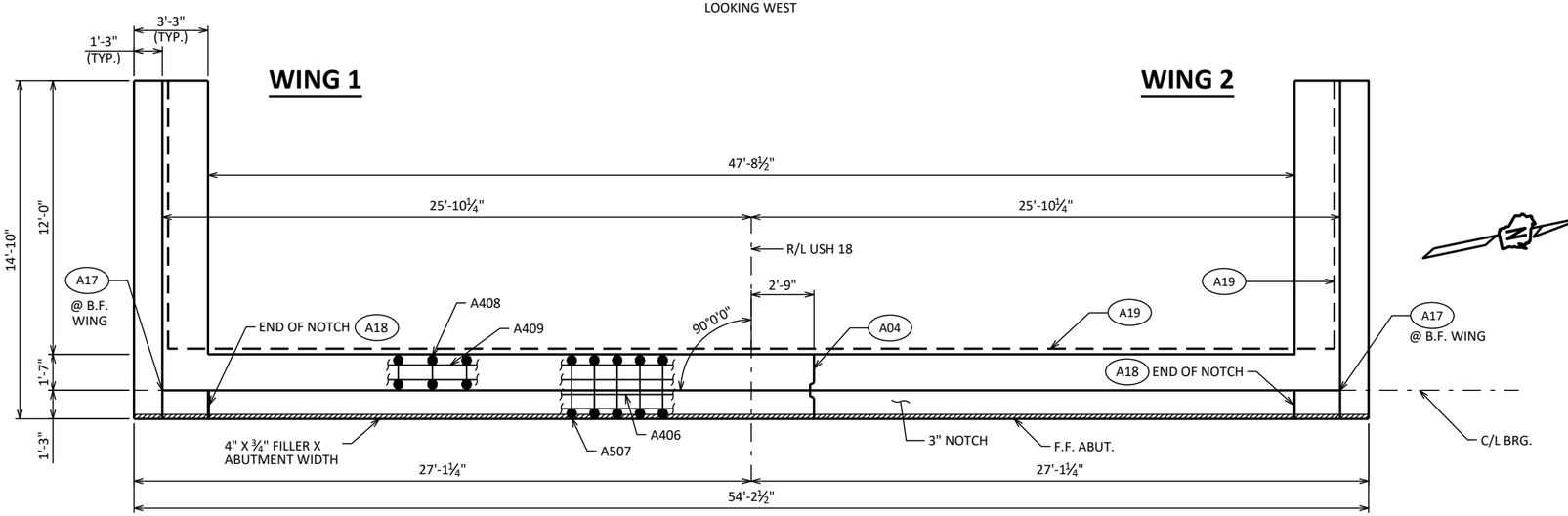



## ELEVATION

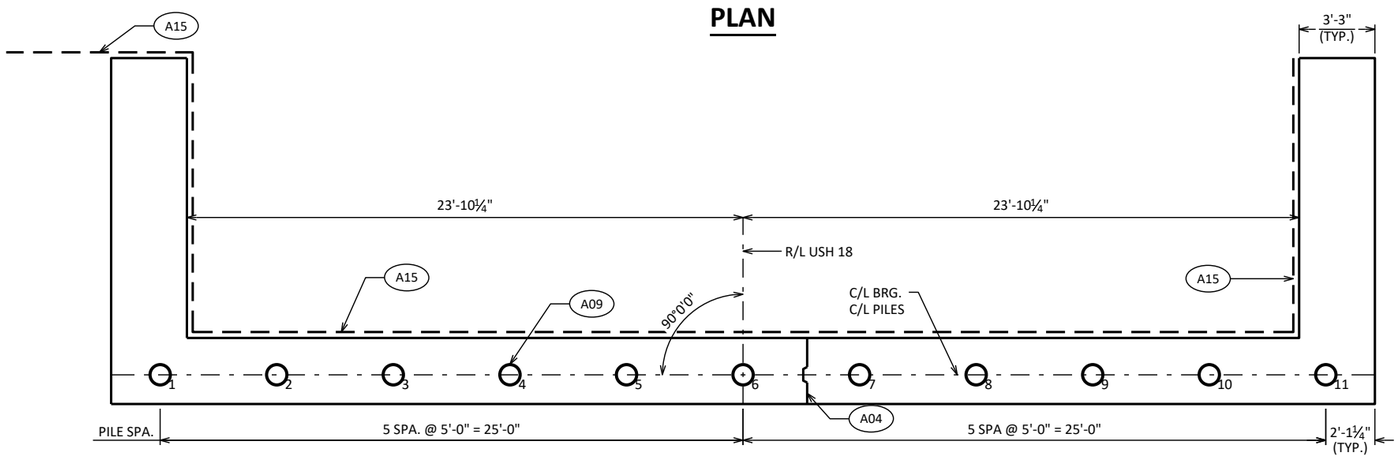
LOOKING WEST



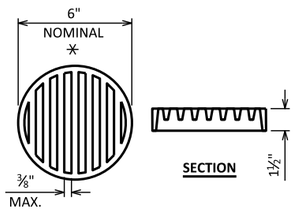

## SECTION THRU BODY




## PLAN




## PILE PLAN




PLAN

## RODENT SHIELD DETAIL

⁎ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAING WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

**A04** VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

**A09** SUPPORT ABUTMENT ON 10¾" DIA. X 0.365" CIP CONCRETE PILING, ESTIMATED 110'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.

**A15** PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

**A17** ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

**A18** ¾" CORK FILLER ON VERTICAL SEAT FACES THAT RUN PARALLEL WITH ROADWAY.

**A19** 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

**WEST ABUTMENT**

SHEET 4
270

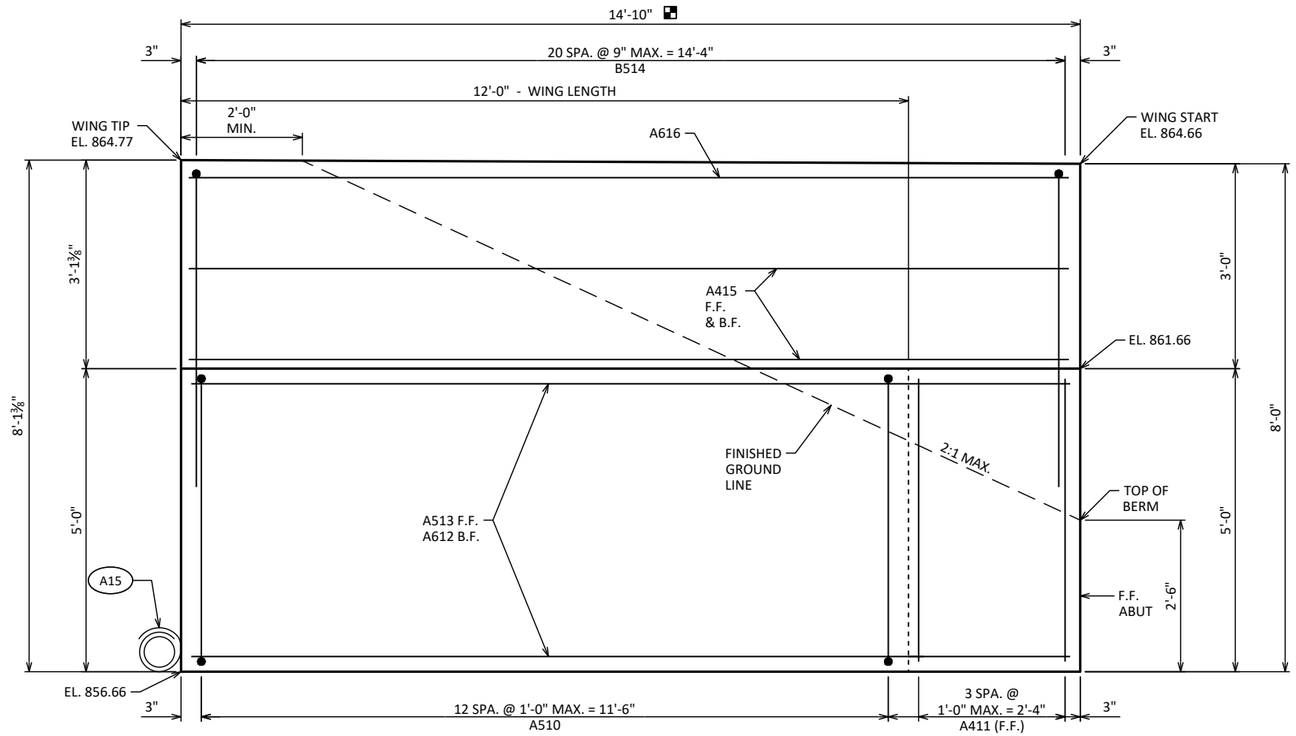
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8

8

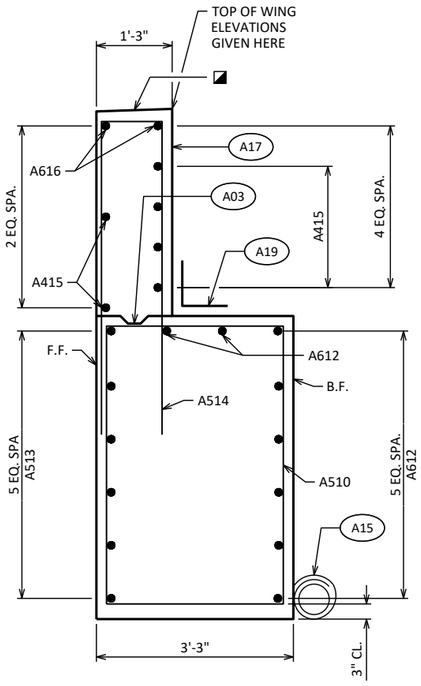
STATE PROJECT NUMBER

**2715-03-73**



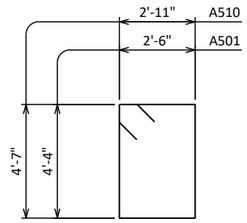

## WING 1 ELEVATION

WING 2 SIMILAR

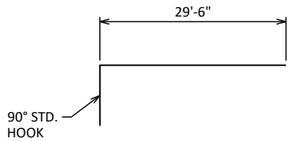



## WING 1 SECTION

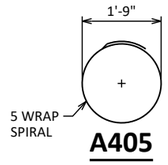
WING 2 SIMILAR



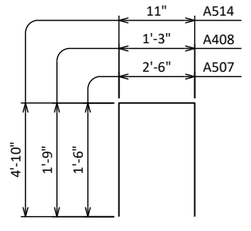

## A501, A510



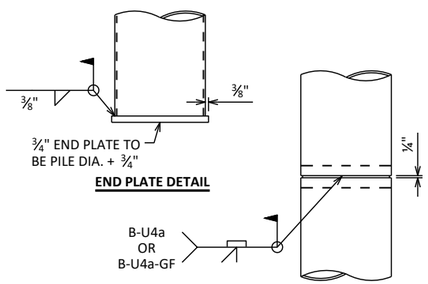

## A803

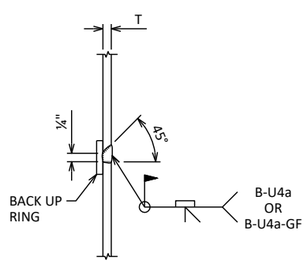



## A405




## A507, A408, A514




## CIP PILE DETAILS

## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| A501 | | 68 | 14'-4" | X | | BODY - VERTICAL - STIRRUP |
| A602 | | 22 | 28'-5" | | | BODY - HORIZONTAL - TOP, BOT, & F.F. |
| A803 | | 14 | 30'-8" | X | | BODY - HORIZONTAL - B.F. |
| A404 | | 22 | 2'-3" | | | BODY - 2 PER PILE - VERTICAL |
| A405 | | 11 | 28'-0" | X | | BODY - 1 PER PILE - SPIRAL |
| A406 | | 4 | 18'-4" | | | BODY - HORIZONTAL - TOP |
| A507 | | 19 | 5'-3" | X | | BODY - VERTICAL |
| A408 | | 35 | 4'-7" | X | | BODY - VERTICAL |
| A409 | | 4 | 28'-0" | | | BODY - HORIZONTAL - TOP |
| A510 | X | 26 | 15'-8" | X | | WINGS 1 & 2 - STIRRUP - LOWER WING |
| A411 | X | 8 | 4'-7" | | | WINGS 1 & 2 - VERTICAL - END OF ABUTMENTS - F.F. |
| A612 | X | 16 | 13'-11" | | | WINGS 1 & 2 - HORIZONTAL - B.F. - LOWER WING |
| A513 | X | 12 | 14'-6" | | | WINGS 1 & 2 - HORIZONTAL - F.F. - LOWER WING |
| A514 | X | 42 | 10'-4" | X | | WINGS 1 & 2 - VERTICAL - UPPER WING |
| A415 | X | 12 | 14'-6" | | | WINGS 1 & 2 - HORIZONTAL - UPPER WING |
| A616 | X | 4 | 14'-6" | | | WINGS 1 & 2 - HORIZONTAL - UPPER WING - TOP |

A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

A17 ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

FINISH SMOOTH - SLOPE TO DRAIN

MEASURED ALONG F.F. WINGWALL

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

**WEST ABUTMENT DETAILS**

SHEET 5
271

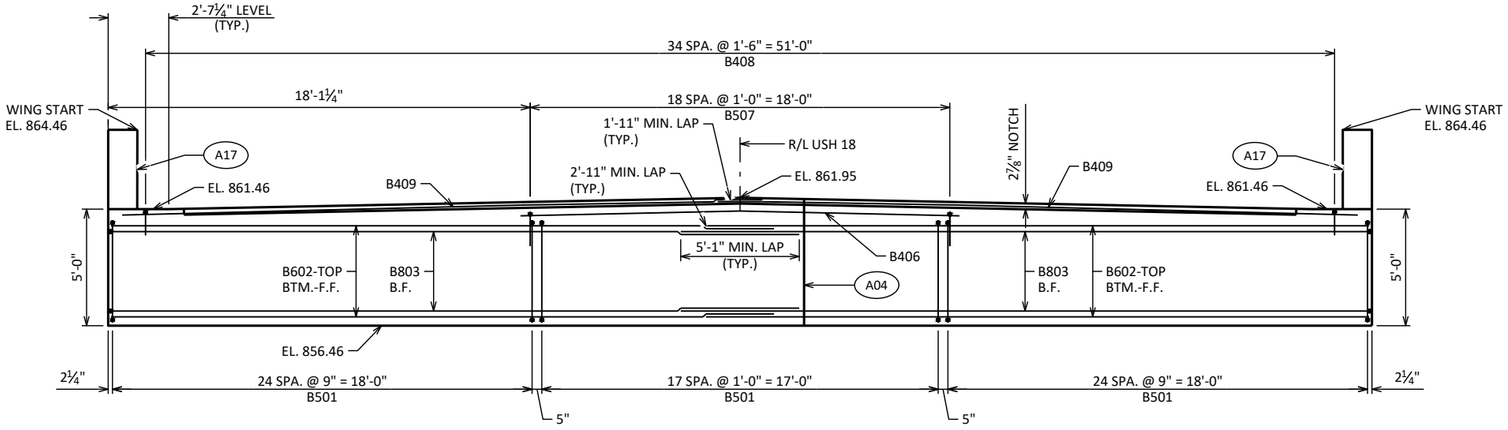
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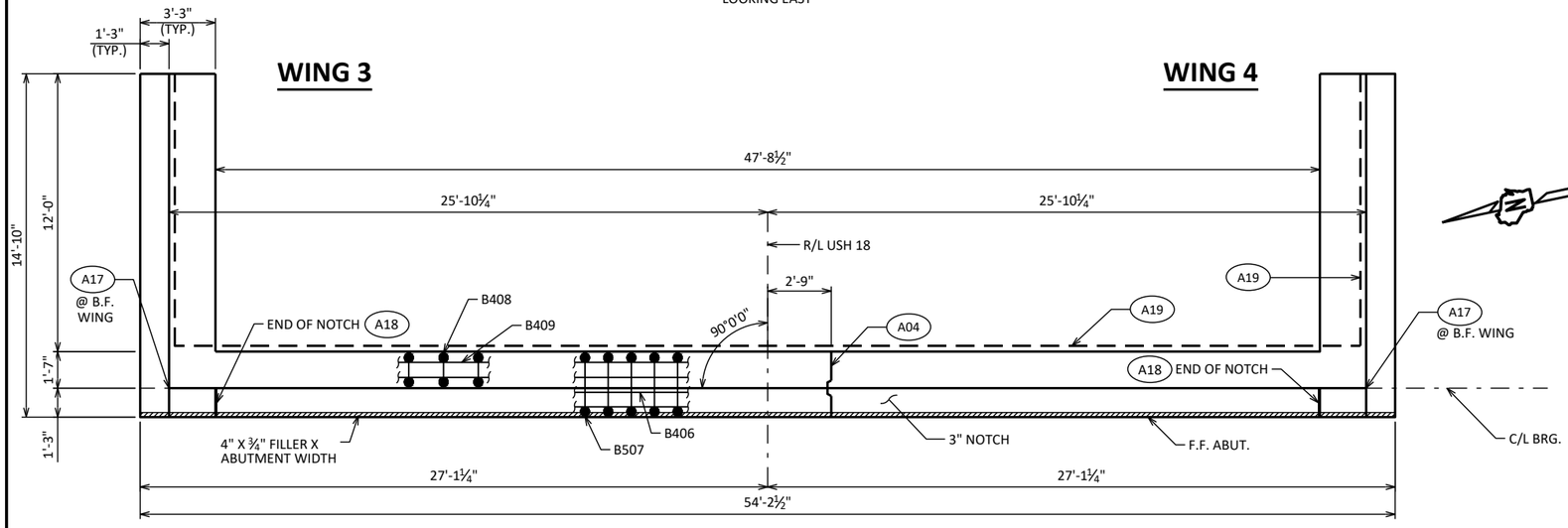
STATE PROJECT NUMBER

**2715-03-73**

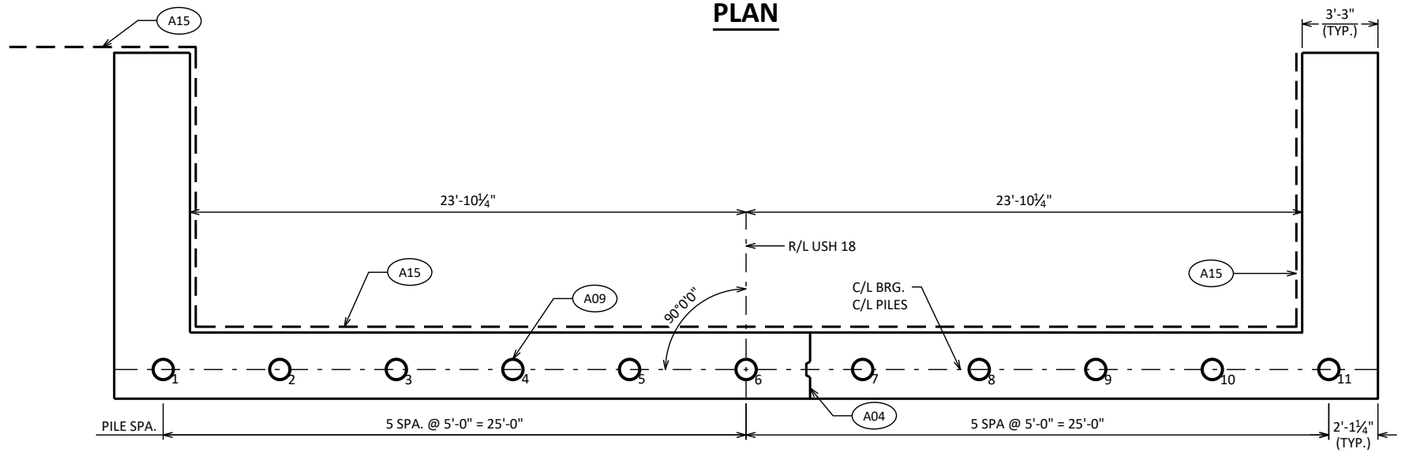



## ELEVATION

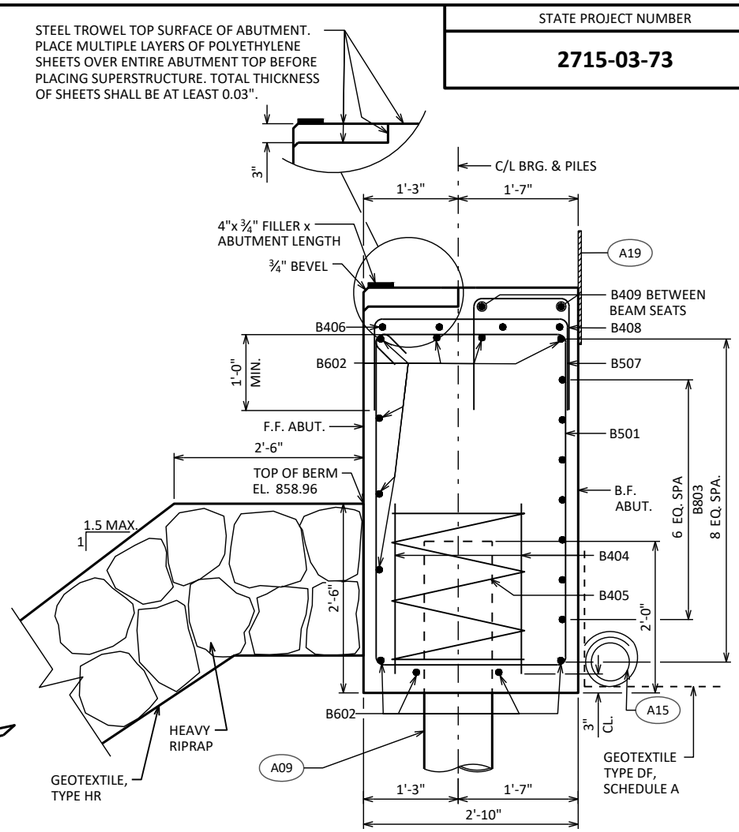
LOOKING EAST




## PLAN




## PILE PLAN




A04 VERT. CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 8. ¾" "V" GROOVE @ THE FRONT FACE AND 18" RMW @ BACKFACE. FOR OPTIONAL DETAILS SEE "ALTERNATE CONSTRUCTION JOINT" SHEET.

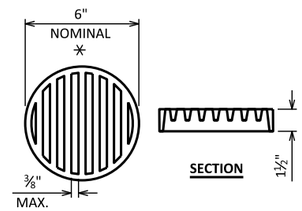
A09 SUPPORT ABUTMENT ON 10¾" DIA. X 0.365" CIP CONCRETE PILING, ESTIMATED 115'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.

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## RODENT SHIELD DETAIL

✳ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

**EAST ABUTMENT**

SHEET 6
272

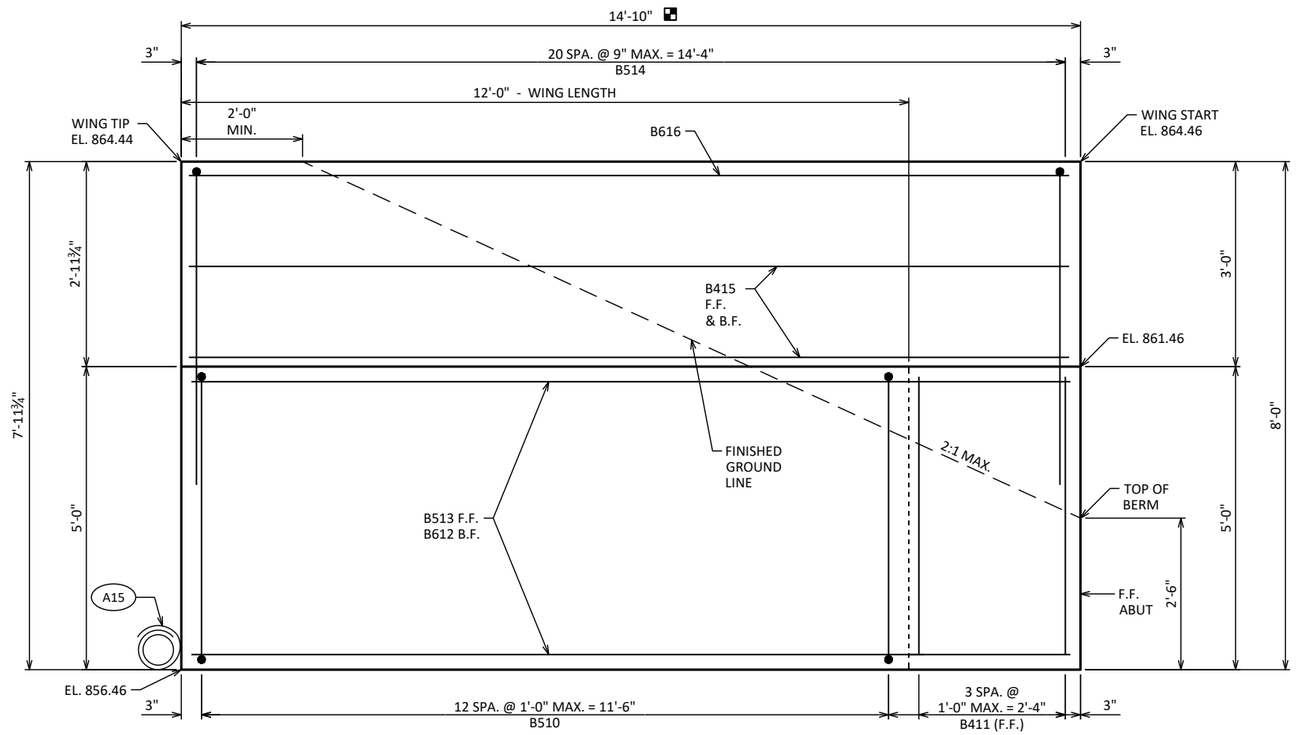
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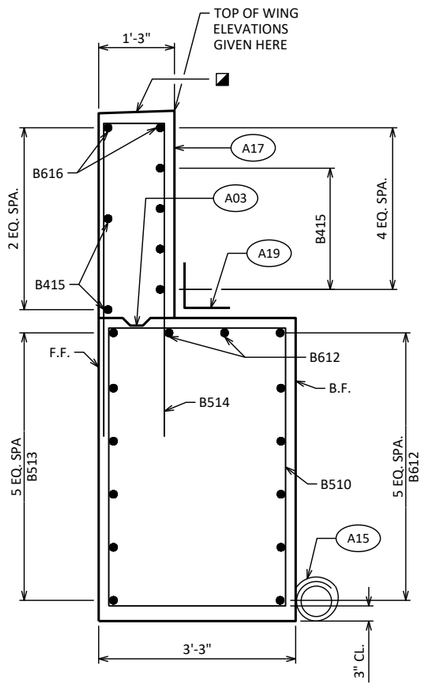
STATE PROJECT NUMBER

**2715-03-73**



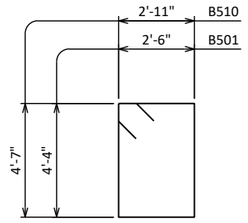

## WING 3 ELEVATION

WING 4 SIMILAR

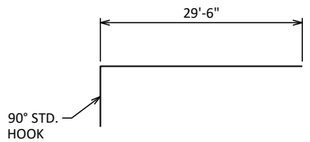



## WING 3 SECTION

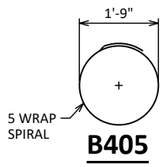
WING 4 SIMILAR



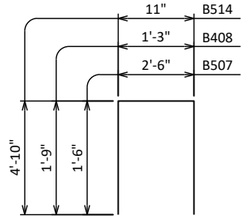

## B501, B510



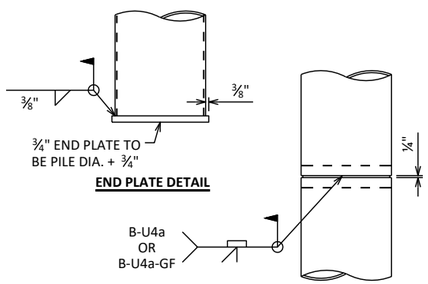

## B803




## B405




## B507, B408, B514




## CIP PILE DETAILS

## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| B501 | | 68 | 14'-4" | X | | BODY - VERTICAL - STIRRUP |
| B602 | | 22 | 28'-5" | | | BODY - HORIZONTAL - TOP, BOT, & F.F. |
| B803 | | 14 | 30'-8" | X | | BODY - HORIZONTAL - B.F. |
| B404 | | 22 | 2'-3" | | | BODY - 2 PER PILE - VERTICAL |
| B405 | | 11 | 28'-0" | X | | BODY - 1 PER PILE - SPIRAL |
| B406 | | 4 | 18'-4" | | | BODY - HORIZONTAL - TOP |
| B507 | | 19 | 5'-3" | X | | BODY - VERTICAL |
| B408 | | 35 | 4'-7" | X | | BODY - VERTICAL |
| B409 | | 4 | 28'-0" | | | BODY - HORIZONTAL - TOP |
| B510 | X | 26 | 15'-8" | X | | WINGS 3 & 4 - STIRRUP - LOWER WING |
| B411 | X | 8 | 4'-7" | | | WINGS 3 & 4 - VERTICAL - END OF ABUTMENTS - F.F. |
| B612 | X | 16 | 13'-11" | | | WINGS 3 & 4 - HORIZONTAL - B.F. - LOWER WING |
| B513 | X | 12 | 14'-6" | | | WINGS 3 & 4 - HORIZONTAL - F.F. - LOWER WING |
| B514 | X | 42 | 10'-4" | X | | WINGS 3 & 4 - VERTICAL - UPPER WING |
| B415 | X | 12 | 14'-6" | | | WINGS 3 & 4 - HORIZONTAL - UPPER WING |
| B616 | X | 4 | 14'-6" | | | WINGS 3 & 4 - HORIZONTAL - UPPER WING - TOP |

A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

A17 ½" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

FINISH SMOOTH - SLOPE TO DRAIN

MEASURED ALONG F.F. WINGWALL

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

**EAST ABUTMENT DETAILS**

SHEET 7
273

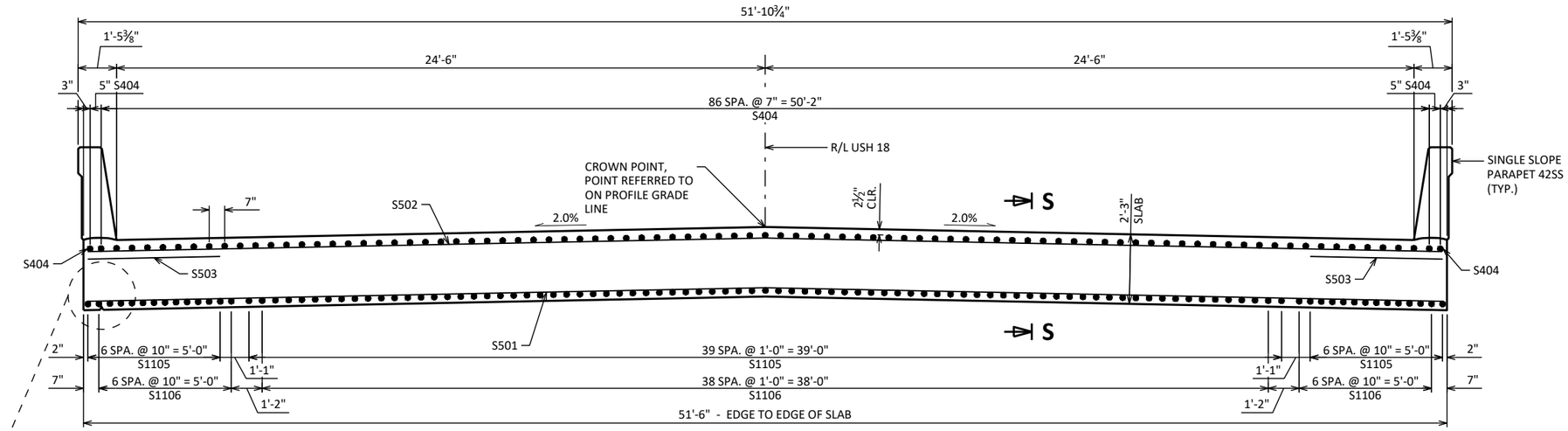
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8

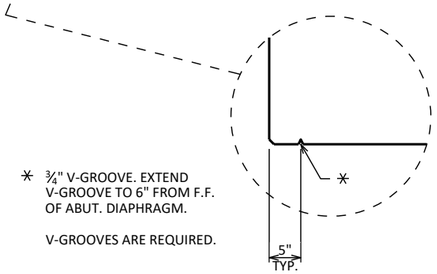
STATE PROJECT NUMBER

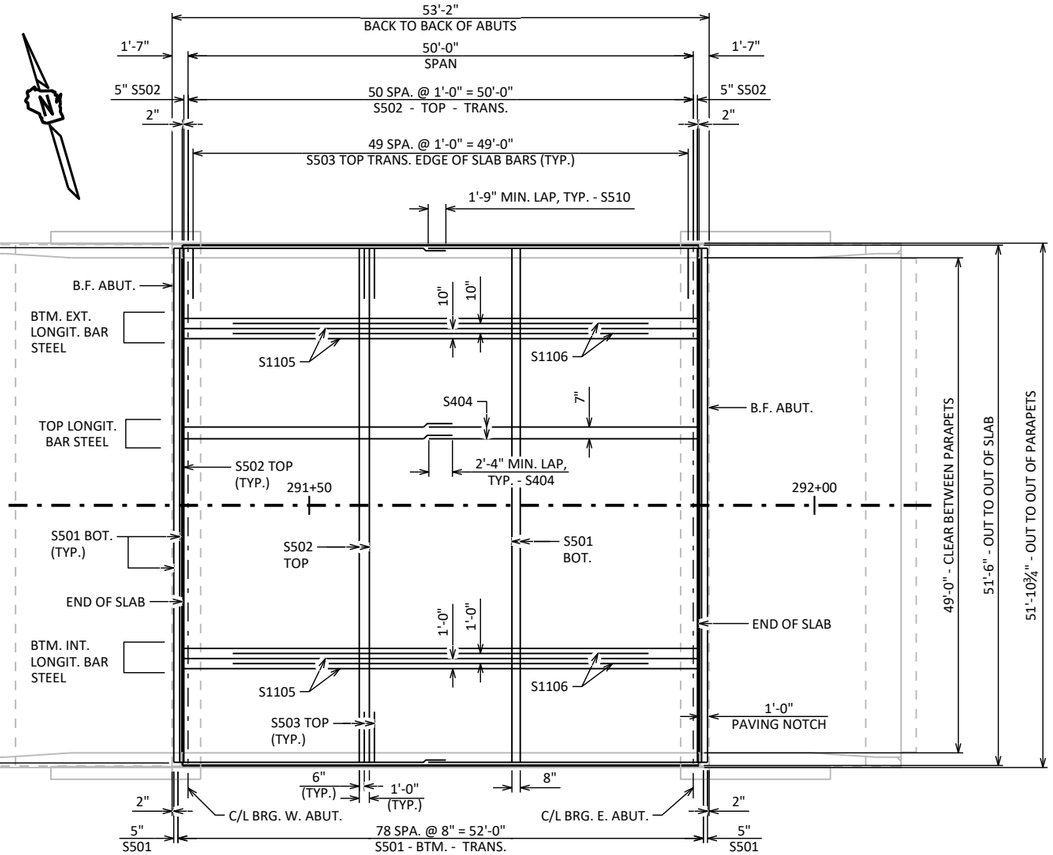
**2715-03-73**



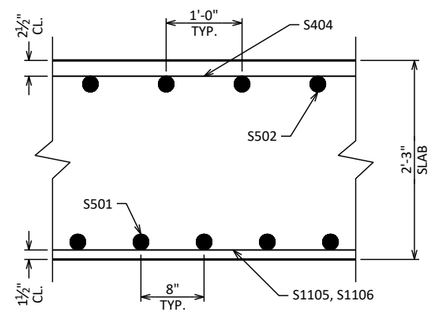

## CROSS SECTION THRU ROADWAY

**LOOKING UPSTATION**




## PLAN




## SECTION S-S

8

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

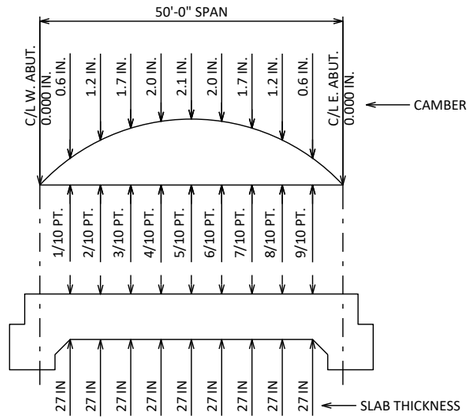
**SUPERSTRUCTURE**

SHEET 8
274

SCALE = 15.0

STATE PROJECT NUMBER

**2715-03-73**




## CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPAN AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTIONS & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PARAPETS SHOWN ABOVE THE HORIZ. CONST. JT. SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR CENTERLINE FOLLOW THIS PROCEDURE:

| | |
|---|---|
| | TOP OF DECK ELEVATION AT FINAL GRADE |
| LESS | SLAB THICKNESS |
| PLUS | CAMBER |
| PLUS | FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR) |
| EQUALS | TOP OF SLAB FALSEWORK ELEVATION. |

## NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

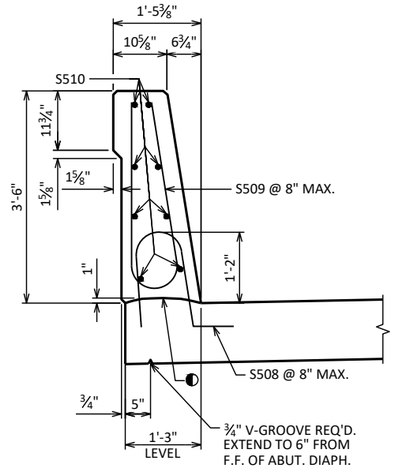
## TOP OF SLAB ELEVATIONS

| LOCATION | C/L BRG. W. ABUT. | 1/10 PT. | 2/10 PT. | 3/10 PT. | 4/10 PT. | 5/10 PT. | 6/10 PT. | 7/10 PT. | 8/10 PT. | 9/10 PT. | C/L BRG. E. ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| N. EOD/GUTTER | 864.67 | 864.64 | 864.61 | 864.58 | 864.56 | 864.54 | 864.52 | 864.50 | 864.48 | 864.47 | 864.46 |
| R/L USH 18 | 865.16 | 865.13 | 865.10 | 865.07 | 865.05 | 865.03 | 865.01 | 864.99 | 864.97 | 864.96 | 864.95 |
| S. EOD/GUTTER | 864.67 | 864.64 | 864.61 | 864.58 | 864.56 | 864.54 | 864.52 | 864.50 | 864.48 | 864.47 | 864.46 |

## SURVEY TOP OF SLAB ELEVATIONS

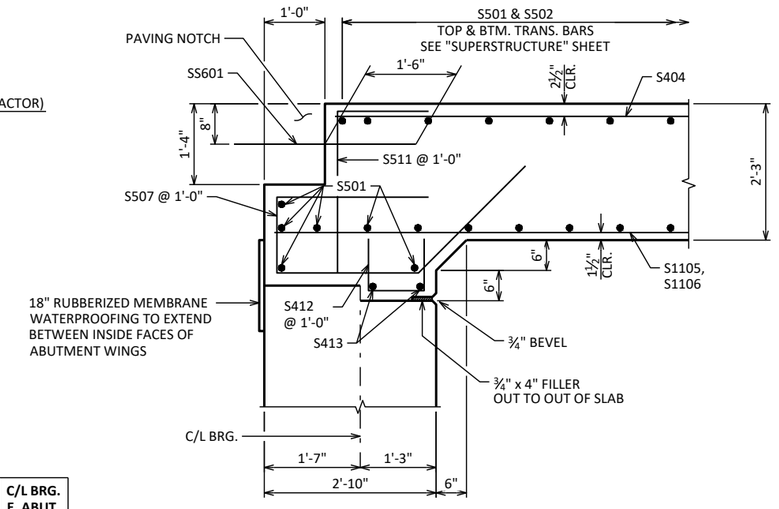
| LOCATION | C/L BRG. W. ABUTMENT | 5/10 PT. | C/L BRG. E. ABUTMENT |
|---|---|---|---|
| N. GUTTER | | | |
| CROWN OR R/L | | | |
| S. GUTTER | | | |

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR C/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.




## SECTION THRU PARAPET ON BRIDGE

◐ CONST. JOINT - STRIKE OFF AS SHOWN

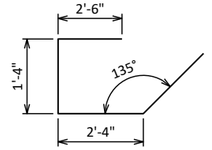



## ABUTMENT DETAIL

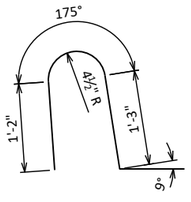
## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

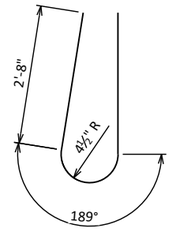
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| S501 | X | 87 | 51'-2" | | | SLAB - TRANS. - BOT. |
| S502 | X | 53 | 51'-2" | | | SLAB - TRANS. - TOP |
| S503 | X | 100 | 5'-0" | | | SLAB - TRANS. - EDGE OF SLAB - TOP |
| S404 | X | 178 | 26'-7" | | | SLAB - LONG. - TOP |
| S1105 | X | 54 | 52'-10" | | | SLAB - LONG. - BOT. |
| S1106 | X | 53 | 42'-10" | | | SLAB - LONG. - BOT. |
| S507 | X | 104 | 8'-0" | X | | SLAB - ABUTMENTS - VERTICAL |
| S508 | X | 156 | 4'-5" | X | | PARAPET/SLAB - VERTICAL |
| S509 | X | 156 | 6'-8" | X | | PARAPET - VERTICAL |
| S510 | X | 32 | 26'-4" | | | PARAPET - HORIZONTAL |
| S511 | X | 104 | 3'-11" | X | | SLAB - ABUTMENTS - VERTICAL |
| S412 | X | 96 | 3'-5" | X | | SLAB - ABUTMENTS - BOT. - VERTICAL |
| S413 | X | 4 | 47'-2" | | | SLAB - ABUTMENTS - BOT. - HORIZONTAL |
| | | | | | | |
| SS601 | | 104 | 3'-0" | | | STRUCTURE SLAB TO APPROACH SLAB |




## S507



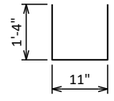

## S508




## S509




## S511




## S412

## NOTES

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS BUILT PLANS.

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

**SUPERSTRUCTURE DETAILS**

SHEET 9
275

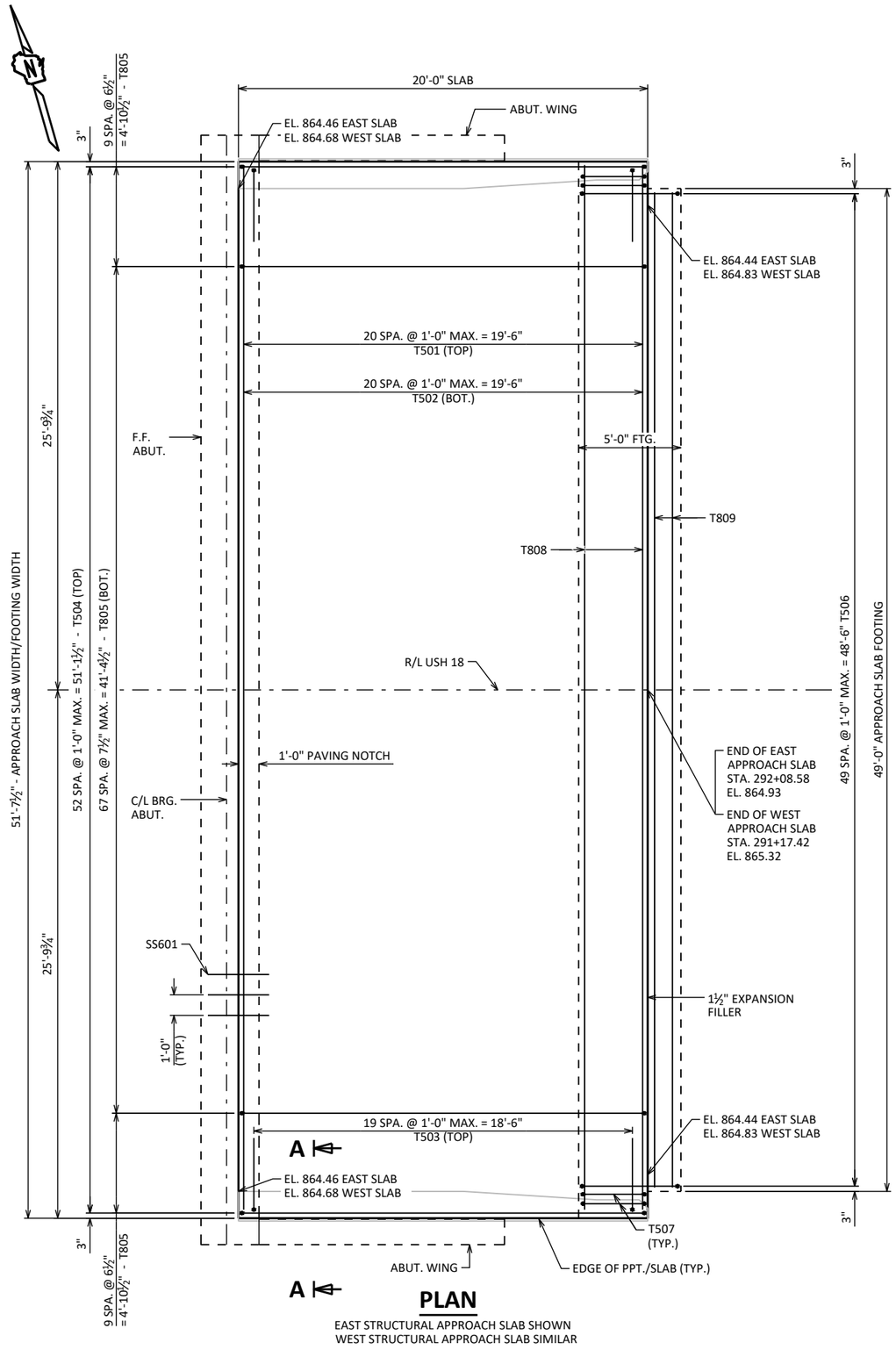
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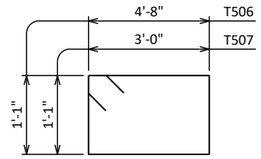
STATE PROJECT NUMBER

**2715-03-73**

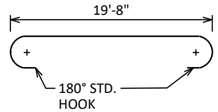



## PLAN

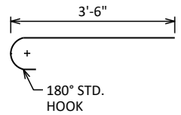
EAST STRUCTURAL APPROACH SLAB SHOWN
WEST STRUCTURAL APPROACH SLAB SIMILAR




## T506, T507




## T805

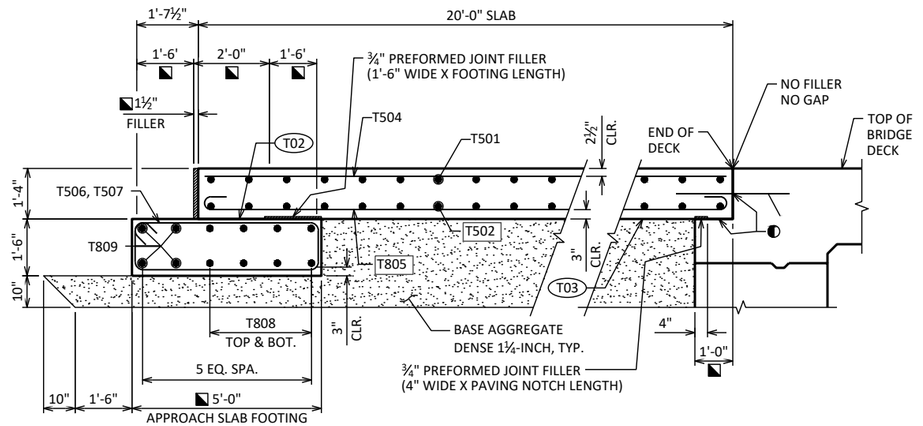



## T503

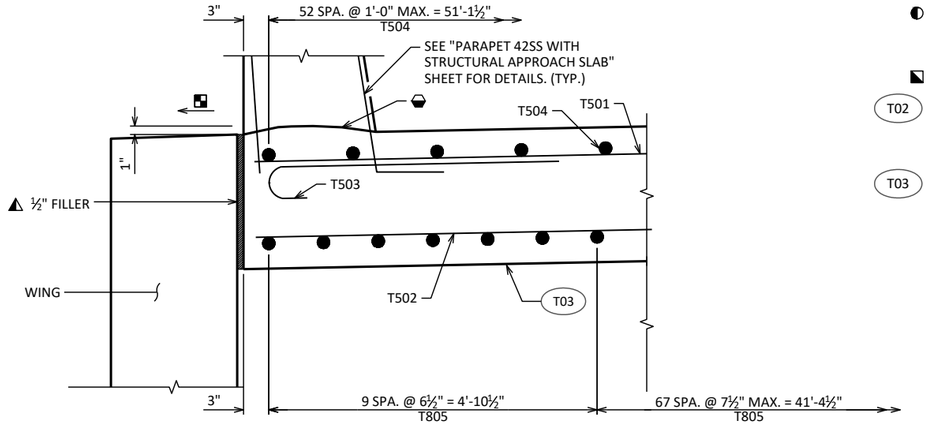
## BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | WEST ABUT. | EAST ABUT. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|
| T501 | X | 21 | 21 | 51'-3" | | | APPROACH SLAB TRANS. - TOP |
| T502 | X | 21 | 21 | 51'-3" | | | APPROACH SLAB TRANS. - BOT |
| T503 | X | 40 | 40 | 4'-1" | X | | APPROACH SLAB TRANS. - TOP - WING |
| T504 | X | 53 | 53 | 19'-8" | | | APPROACH SLAB LONG. - TOP |
| T805 | X | 86 | 86 | 21'-6" | X | | APPROACH SLAB LONG. - BOT. |
| T506 | X | 50 | 50 | 12'-2" | X | | APPROACH SLAB FTG. - STIRRUP |
| T507 | X | 4 | 4 | 8'-10" | X | | APPROACH SLAB FTG. - STIRRUP |
| T808 | X | 8 | 8 | 51'-3" | | | APPROACH SLAB FTG. - TRANS. |
| T809 | X | 4 | 4 | 48'-8" | | | APPROACH SLAB FTG. - TRANS. |




## SECTION THRU APPROACH SLAB




## SECTION A-A

- SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- CONST. JOINT - STRIKE OFF AS SHOWN
- SLOPE TO DRAIN
- APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.
- MEASURED NORMAL TO ABUTMENT.
- T02 — STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- T03 — PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

**STRUCTURAL APPROACH SLAB**

SHEET 10
276

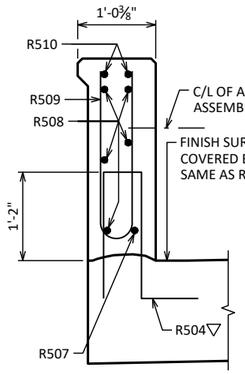
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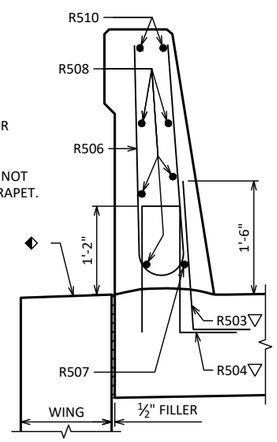
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STATE PROJECT NUMBER

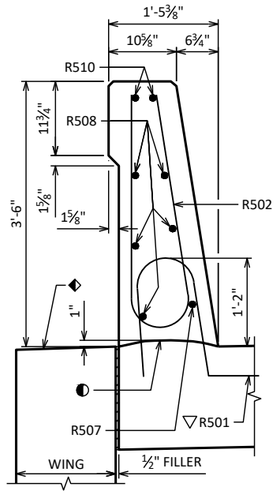
**2715-03-73**



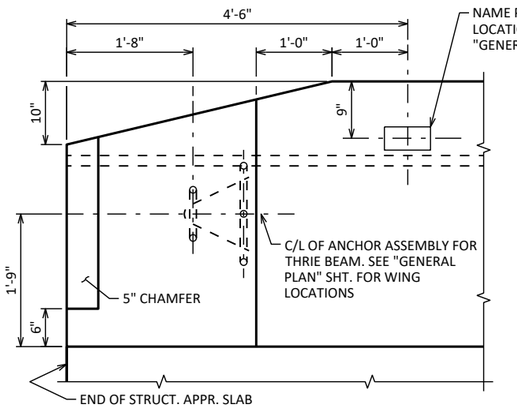

## SECTION A-A




## SECTION B-B




## SECTION C-C




## PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

## BILL OF BARS

FOR STRUCTURAL APPOACH SLAB PARAPETS

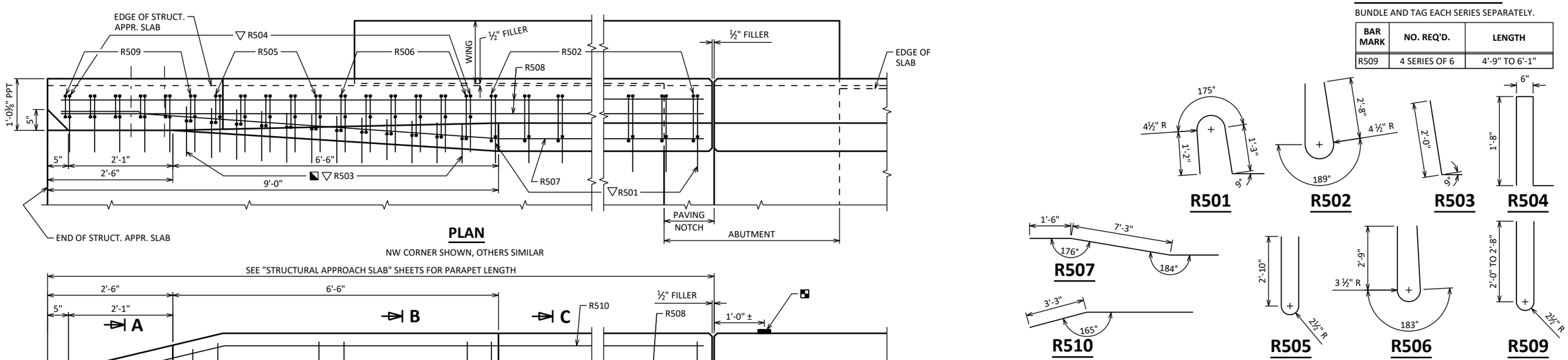
| BAR MARK | COAT | WEST ABUT. | EAST ABUT. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|
| R501 | X | 34 | 34 | 4'-5" | X | | PARAPET VERT. |
| R502 | X | 34 | 34 | 6'-8" | X | | PARAPET VERT. |
| R503 | X | 24 | 24 | 2'-9" | X | | PARAPET VERT. |
| R504 | X | 34 | 34 | 4'-4" | X | | PARAPET VERT. |
| R505 | X | 10 | 10 | 6'-5" | X | | PARAPET VERT. |
| R506 | X | 12 | 12 | 6'-6" | X | | PARAPET VERT. |
| R507 | X | 2 | 2 | 19'-8" | X | | PARAPET HORIZ. |
| R508 | X | 10 | 10 | 19'-8" | | | PARAPET HORIZ. |
| R509 | X | 12 | 12 | 5'-5" | X | ⚠ | PARAPET VERT. |
| R510 | X | 4 | 4 | 19'-8" | X | | PARAPET HORIZ. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

## BAR SERIES TABLE

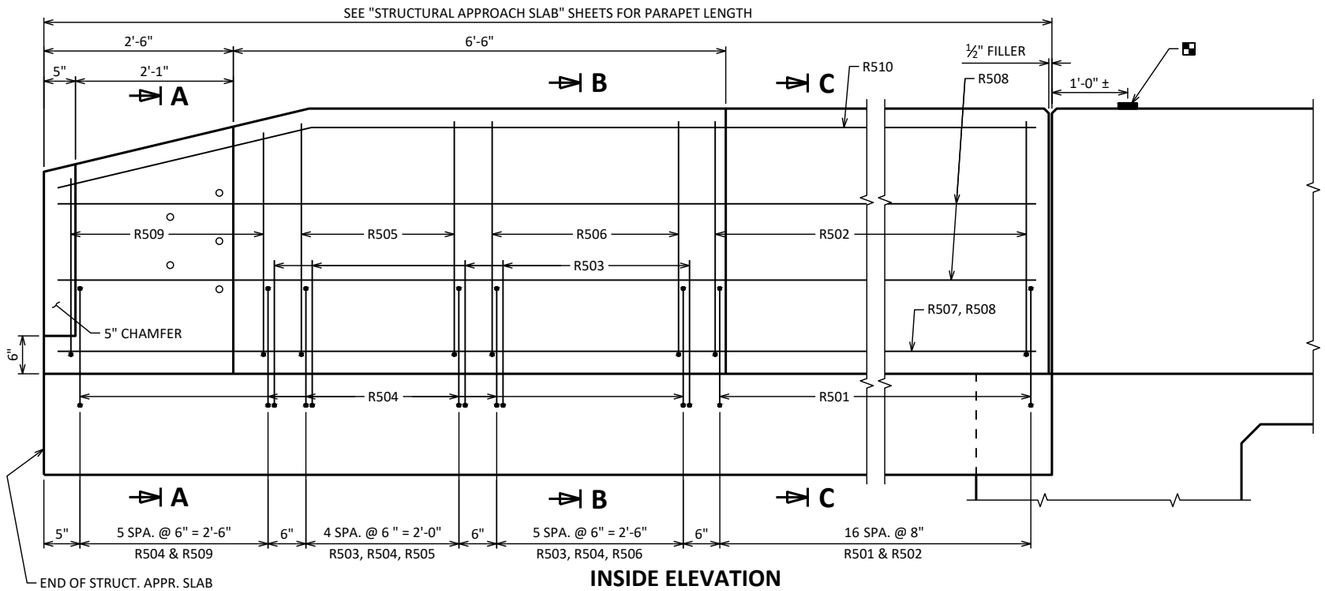
BUNDLE AND TAG EACH SERIES SEPARATELY.

| BAR MARK | NO. REQ'D. | LENGTH |
|---|---|---|
| R509 | 4 SERIES OF 6 | 4'-9" TO 6'-1" |




## PLAN

NW CORNER SHOWN, OTHERS SIMILAR



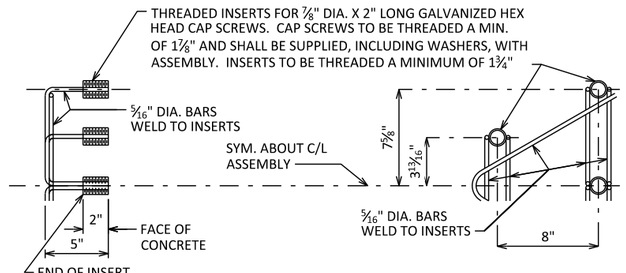

## INSIDE ELEVATION

NW CORNER SHOWN, OTHERS SIMILAR
WING & STRUCTURAL APPROACH SLAB FOOTING NOT SHOWN FOR CLARITY




BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

- CONST. JOINT - STRIKE OFF AS SHOWN
- SLOPE FOR DRAINAGE
- USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- R501, R503, AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.




## DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

**PARAPET 42SS WITH STRUCTURAL APPROACH SLAB**

SHEET 11
277

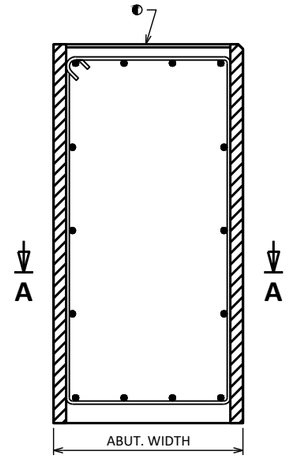
SCALE = 2.00

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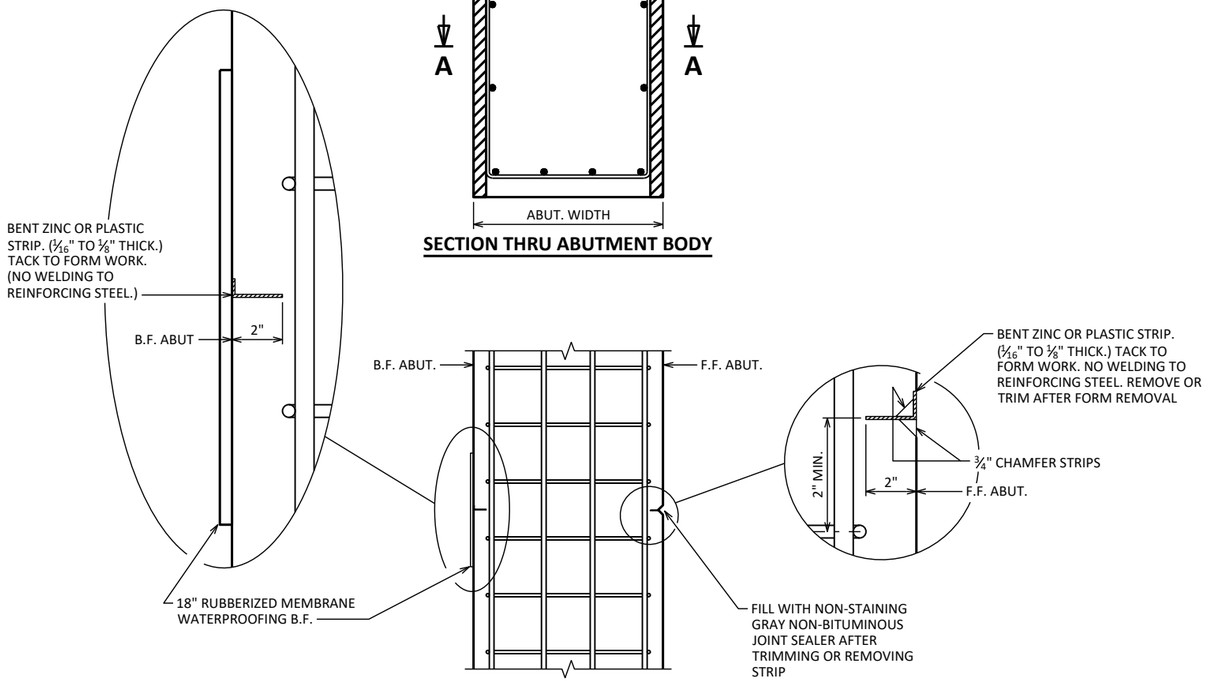
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STATE PROJECT NUMBER

**2715-03-73**




**SECTION THRU ABUTMENT BODY**




**SECTION A-A**

# ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

## NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATIVE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING JOINT IS NOT ALLOWED.

◐ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY ½" DEEP.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-67-379**

DRAWN BY IDL | PLANS CK'D WAH

**ALTERNATE CONSTRUCTION JOINT**

SHEET 12
278

SCALE = 2.00

8

8

B-67-0152

| STATION | REAL STATION | DISTANCE | AREA (SF) | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | CUMULATIVE VOL (CY) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT 1.00 | EXPANDED FILL 1.25 | MASS ORDINATE |
| | | | | | | NOTE 1 | NOTE 2 | NOTE 3 | NOTE 1 | | NOTE 8 |
| 77+06.00 | 7623.64 | 0.00 | 14.82 | 17.33 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77+09.14 | 7626.78 | 3.14 | 31.17 | 17.33 | 0.00 | 3 | 2 | 0 | 3 | 0 | 1 |
| 77+34.10 | 7651.74 | 24.96 | 28.11 | 17.33 | 0.00 | 27 | 16 | 0 | 30 | 0 | 12 |
| 77+50.00 | 7667.64 | 15.90 | 32.87 | 17.33 | 0.00 | 18 | 10 | 0 | 48 | 0 | 20 |
| 77+85.79 | 7703.43 | 35.79 | 32.69 | 17.33 | 0.00 | 43 | 23 | 0 | 91 | 0 | 40 |
| 78+00.00 | 7717.64 | 14.21 | 36.11 | 17.33 | 0.00 | 18 | 9 | 0 | 109 | 0 | 49 |
| 78+10.52 | 7728.16 | 10.52 | 35.88 | 17.33 | 0.00 | 14 | 7 | 0 | 123 | 0 | 56 |
| 78+38.35 | 7755.99 | 27.83 | 31.49 | 17.33 | 0.00 | 35 | 18 | 0 | 158 | 0 | 73 |
| 78+50.00 | 7767.64 | 11.65 | 31.65 | 17.33 | 0.00 | 14 | 7 | 0 | 172 | 0 | 80 |
| 79+00.00 | 7817.64 | 50.00 | 27.31 | 17.33 | 0.00 | 55 | 32 | 0 | 227 | 0 | 103 |
| 79+22.00 | 7839.64 | 22.00 | 27.60 | 17.33 | 0.00 | 22 | 14 | 0 | 249 | 0 | 111 |
| 81+40.00 | 8057.64 | 0.00 | 26.00 | 17.33 | 8.31 | 0 | 0 | 0 | 249 | 0 | 111 |
| 81+50.00 | 8067.64 | 10.00 | 23.96 | 20.00 | 2.01 | 9 | 7 | 2 | 258 | 3 | 111 |
| 82+00.00 | 8117.64 | 50.00 | 30.93 | 24.00 | 0.98 | 51 | 41 | 3 | 309 | 6 | 117 |
| 82+50.00 | 8167.64 | 50.00 | 37.65 | 24.00 | 0.00 | 63 | 44 | 1 | 372 | 8 | 135 |
| 82+80.00 | 8197.64 | 30.00 | 26.72 | 24.00 | 0.00 | 36 | 27 | 0 | 408 | 8 | 144 |

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL |
| 2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL | THIS DOES NOT SHOW UP IN CROSS SECTIONS |
| 3 - FILL | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME |
| 8 - MASS ORDINATE | IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)] |

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PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | EARTHWORK: STH 59 | SHEET 279 | E

B-67-0377

| STATION | REAL STATION | DISTANCE | AREA (SF) | | | Incremental Vol (CY) (Unadjusted) | | | Cumulative Vol (CY) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT 1.00 | EXPANDED FILL 1.25 | MASS ORDINATE |
| | | | | | | NOTE 1 | NOTE 2 | NOTE 3 | NOTE 1 | | Note 8 |
| 203+86.00 | 20386.00 | 0.00 | 82.53 | 39.25 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 203+88.83 | 20388.83 | 2.83 | 82.39 | 39.25 | 0.00 | 9 | 4 | 0 | 9 | 0 | 4.53 |
| 204+00.00 | 20400.00 | 11.17 | 79.82 | 39.25 | 5.47 | 34 | 16 | 1 | 42 | 1 | 20.43 |
| 204+16.37 | 20416.37 | 16.37 | 73.01 | 39.25 | 8.00 | 46 | 24 | 4 | 89 | 7 | 37.86 |
| 204+40.02 | 20440.02 | 23.65 | 63.16 | 39.25 | 10.03 | 55 | 34 | 9 | 144 | 18 | 47.82 |
| 204+64.32 | 20464.32 | 24.30 | 55.09 | 39.25 | 9.00 | 53 | 35 | 9 | 197 | 28 | 55.00 |
| 204+65.00 | 20465.00 | 0.68 | 54.90 | 39.25 | 9.01 | 1 | 1 | 0 | 198 | 28 | 55.12 |
| 204+89.30 | 20489.30 | 24.30 | 50.87 | 39.25 | 5.23 | 48 | 35 | 6 | 246 | 36 | 59.38 |
| 204+89.98 | 20489.98 | 0.68 | 50.98 | 39.25 | 5.15 | 1 | 1 | 0 | 247 | 37 | 59.51 |
| 205+00.00 | 20500.00 | 10.02 | 50.72 | 39.25 | 5.29 | 19 | 15 | 2 | 266 | 39 | 61.39 |
| 205+14.28 | 20514.28 | 14.28 | 38.88 | 39.25 | 11.84 | 24 | 21 | 5 | 290 | 45 | 58.67 |
| 206+00.00 | 20600.00 | 85.72 | 26.17 | 39.25 | 28.10 | 103 | 125 | 63 | 393 | 124 | -41.94 |
| 206+17.15 | 20617.15 | 17.15 | 21.92 | 39.25 | 34.36 | 15 | 25 | 20 | 408 | 149 | -76.39 |
| 207+08.32 | 20708.32 | 0.00 | 0.00 | 39.25 | 0.00 | 0 | 0 | 0 | 408 | 149 | -76.39 |
| 208+00.00 | 20800.00 | 91.68 | 19.58 | 39.25 | 22.61 | 33 | 133 | 38 | 442 | 197 | -224.41 |
| 208+10.52 | 20810.52 | 10.52 | 22.47 | 39.25 | 23.68 | 8 | 15 | 9 | 450 | 208 | -242.78 |
| 208+35.50 | 20835.50 | 24.98 | 32.13 | 39.25 | 14.04 | 25 | 36 | 17 | 475 | 230 | -275.65 |
| 208+36.22 | 20836.22 | 0.72 | 32.47 | 39.25 | 13.96 | 1 | 1 | 0 | 476 | 230 | -276.30 |
| 208+60.48 | 20860.48 | 24.26 | 42.68 | 39.25 | 20.25 | 34 | 35 | 15 | 510 | 250 | -297.02 |
| 208+61.20 | 20861.20 | 0.72 | 42.80 | 39.25 | 20.49 | 1 | 1 | 1 | 511 | 250 | -297.60 |
| 208+86.16 | 20886.16 | 24.96 | 51.98 | 39.25 | 31.15 | 44 | 36 | 24 | 555 | 280 | -319.91 |
| 209+00.00 | 20900.00 | 13.84 | 56.45 | 39.25 | 26.52 | 28 | 20 | 15 | 582 | 299 | -330.72 |
| 209+12.28 | 20912.28 | 12.28 | 60.71 | 39.25 | 20.55 | 27 | 18 | 11 | 609 | 312 | -335.31 |
| 209+29.33 | 20929.33 | 17.05 | 66.02 | 39.25 | 3.89 | 40 | 25 | 8 | 649 | 322 | -329.72 |
| 210+00.00 | 21000.00 | 70.67 | 83.65 | 39.25 | 0.33 | 196 | 103 | 6 | 845 | 328 | -243.49 |
| 210+17.00 | 21017.00 | 17.00 | 86.22 | 39.25 | 0.08 | 53 | 25 | 0 | 898 | 329 | -214.88 |

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL |
| 2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL | THIS DOES NOT SHOW UP IN THE CROSS SECTIONS |
| 3 - FILL | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME |
| 8 - MASS ORDINATE | IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)] |

B-67-0378

| STATION | REAL STATION | DISTANCE | AREA (SF) | | | Incremental Vol (CY) (Unadjusted) | | | Cumulative Vol (CY) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT 1.00 | EXPANDED FILL 1.25 | MASS ORDINATE |
| | | | | | | NOTE 1 | NOTE 2 | NOTE 3 | NOTE 1 | | Note 8 |
| 236+83.00 | 23683.00 | 0.00 | 78.13 | 39.25 | 17.85 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 237+00.00 | 23700.00 | 17.00 | 77.66 | 39.25 | 20.10 | 49 | 25 | 12 | 49 | 15 | 9.40 |
| 237+31.94 | 23731.94 | 31.94 | 77.04 | 39.25 | 14.89 | 92 | 46 | 21 | 141 | 41 | 28.60 |
| 237+56.92 | 23756.92 | 24.98 | 64.35 | 39.25 | 13.20 | 65 | 36 | 13 | 206 | 57 | 41.45 |
| 237+81.90 | 23781.90 | 24.98 | 52.27 | 39.25 | 10.50 | 54 | 36 | 11 | 260 | 71 | 45.38 |
| 237+81.94 | 23781.94 | 0.04 | 52.25 | 39.25 | 10.50 | 0 | 0 | 0 | 260 | 71 | 45.38 |
| 238+00.00 | 23800.00 | 18.06 | 37.71 | 39.25 | 21.32 | 30 | 26 | 11 | 290 | 84 | 35.91 |
| 238+11.60 | 23811.60 | 11.60 | 34.03 | 39.25 | 24.92 | 15 | 17 | 10 | 305 | 96 | 22.04 |
| 238+41.27 | 23841.27 | 29.67 | 18.87 | 39.25 | 44.44 | 29 | 43 | 38 | 335 | 144 | -39.66 |
| 238+84.42 | 23884.42 | 43.15 | 0.19 | 39.25 | 77.10 | 15 | 63 | 97 | 350 | 266 | -208.56 |
| 239+75.58 | 23975.58 | 0.00 | 0.00 | 39.25 | 0.00 | 0 | 0 | 0 | 350 | 266 | -208.56 |
| 240+00.00 | 24000.00 | 24.42 | 0.00 | 39.25 | 85.93 | 0 | 35 | 39 | 350 | 314 | -292.63 |
| 240+28.10 | 24028.10 | 28.10 | 0.00 | 39.25 | 51.96 | 0 | 41 | 72 | 350 | 404 | -423.17 |
| 240+53.08 | 24053.08 | 24.98 | 3.93 | 39.25 | 38.42 | 2 | 36 | 42 | 352 | 456 | -509.93 |
| 240+78.06 | 24078.06 | 24.98 | 20.96 | 39.25 | 34.77 | 12 | 36 | 34 | 363 | 498 | -577.05 |
| 240+78.10 | 24078.10 | 0.04 | 21.00 | 39.25 | 34.73 | 0 | 0 | 0 | 363 | 498 | -577.14 |
| 241+00.00 | 24100.00 | 21.90 | 35.20 | 39.25 | 23.21 | 23 | 32 | 23 | 386 | 528 | -615.56 |
| 241+03.08 | 24103.08 | 3.08 | 37.90 | 39.25 | 23.55 | 4 | 4 | 3 | 390 | 531 | -619.20 |
| 241+28.06 | 24128.06 | 24.98 | 53.16 | 39.25 | 9.57 | 42 | 36 | 15 | 432 | 550 | -632.54 |
| 241+62.35 | 24162.35 | 34.29 | 69.16 | 39.25 | 0.00 | 78 | 50 | 6 | 510 | 558 | -612.31 |
| 242+00.00 | 24200.00 | 37.65 | 58.52 | 39.25 | 0.47 | 89 | 55 | 0 | 599 | 558 | -578.43 |
| 242+53.00 | 24253.00 | 53.00 | 55.61 | 39.25 | 0.10 | 112 | 77 | 1 | 711 | 559 | -544.16 |

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL |
| 2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL | THIS DOES NOT SHOW UP IN THE CROSS SECTIONS |
| 3 - FILL | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME |
| 8 - MASS ORDINATE | IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)] |

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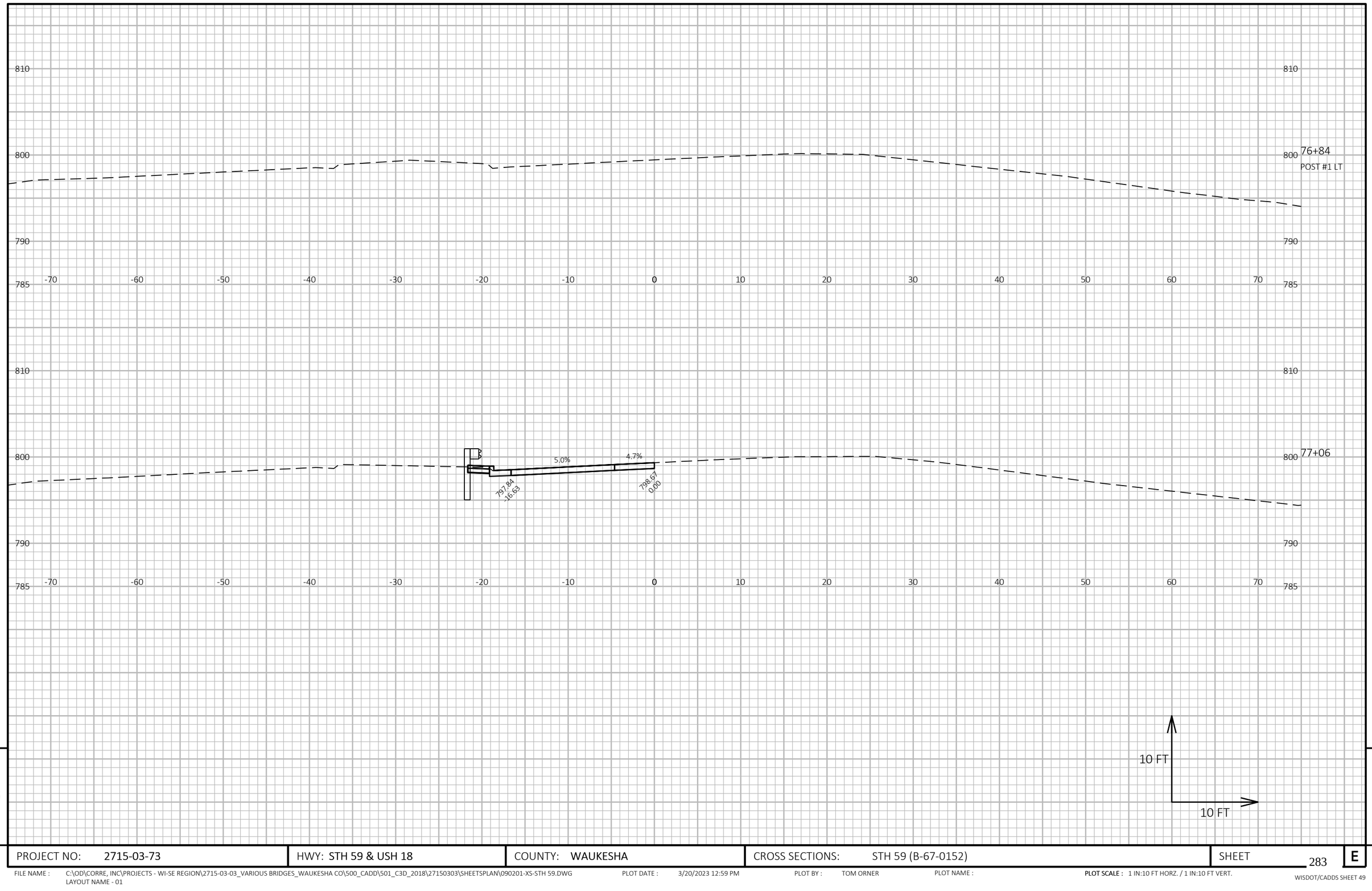
B-67-0379

| STATION | REAL STATION | DISTANCE | AREA (SF) | | | Incremental Vol (CY) (Unadjusted) | | | Cumulative Vol (CY) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | CUT 1.00 | EXPANDED FILL 1.25 | MASS ORDINATE |
| | | | | | | NOTE 1 | NOTE 2 | NOTE 3 | NOTE 1 | | Note 8 |
| 288+71.00 | 28,871.00 | 0.00 | 76.92 | 39.25 | 0.09 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| 289+00.00 | 28,900.00 | 29.00 | 75.50 | 39.25 | 0.14 | 82 | 42 | 0 | 82 | 0 | 39.54 |
| 289+10.95 | 28,910.95 | 10.95 | 70.94 | 39.25 | 0.46 | 30 | 16 | 0 | 112 | 0 | 53.17 |
| 289+27.44 | 28,927.44 | 16.49 | 67.98 | 39.25 | 0.36 | 42 | 24 | 0 | 154 | 1 | 71.31 |
| 289+52.42 | 28,952.42 | 24.98 | 48.06 | 39.25 | 2.19 | 54 | 36 | 1 | 208 | 2 | 87.20 |
| 289+64.94 | 28,964.94 | 12.52 | 55.71 | 39.25 | 2.68 | 24 | 18 | 1 | 232 | 4 | 91.64 |
| 289+77.40 | 28,977.40 | 12.46 | 40.93 | 39.25 | 12.39 | 22 | 18 | 3 | 254 | 8 | 91.48 |
| 289+89.92 | 28,989.92 | 12.52 | 39.34 | 39.25 | 21.20 | 19 | 18 | 8 | 273 | 18 | 82.16 |
| 290+14.89 | 29,014.89 | 24.97 | 34.66 | 39.25 | 6.84 | 34 | 36 | 13 | 307 | 34 | 63.87 |
| 291+00.00 | 29,100.00 | 85.11 | 14.59 | 39.25 | 22.96 | 78 | 124 | 47 | 384 | 93 | -40.94 |
| 291+17.22 | 29,117.22 | 17.22 | 16.18 | 39.25 | 31.68 | 10 | 25 | 17 | 394 | 114 | -77.94 |
| 292+08.58 | 29,208.58 | 0.00 | 0.00 | 39.25 | 0.00 | 0 | 0 | 0 | 394 | 114 | -77.94 |
| 293+00.00 | 29,300.00 | 91.42 | 46.67 | 39.25 | 7.66 | 79 | 133 | 13 | 473 | 130 | -148.04 |
| 293+11.10 | 29,311.10 | 11.10 | 54.68 | 39.25 | 2.75 | 21 | 16 | 2 | 494 | 133 | -146.02 |
| 293+36.08 | 29,336.08 | 24.98 | 71.49 | 39.25 | 3.33 | 58 | 36 | 3 | 552 | 137 | -127.48 |
| 293+61.06 | 29,361.06 | 24.98 | 86.48 | 39.25 | 0.57 | 73 | 36 | 2 | 626 | 139 | -92.97 |
| 293+99.00 | 29,399.00 | 37.94 | 122.49 | 39.25 | 0.00 | 147 | 55 | 0 | 772 | 139 | -1.81 |

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL |
| 2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL | THIS DOES NOT SHOW UP IN THE CROSS SECTIONS |
| 3 - FILL | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME |
| 8 - MASS ORDINATE | IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)] |

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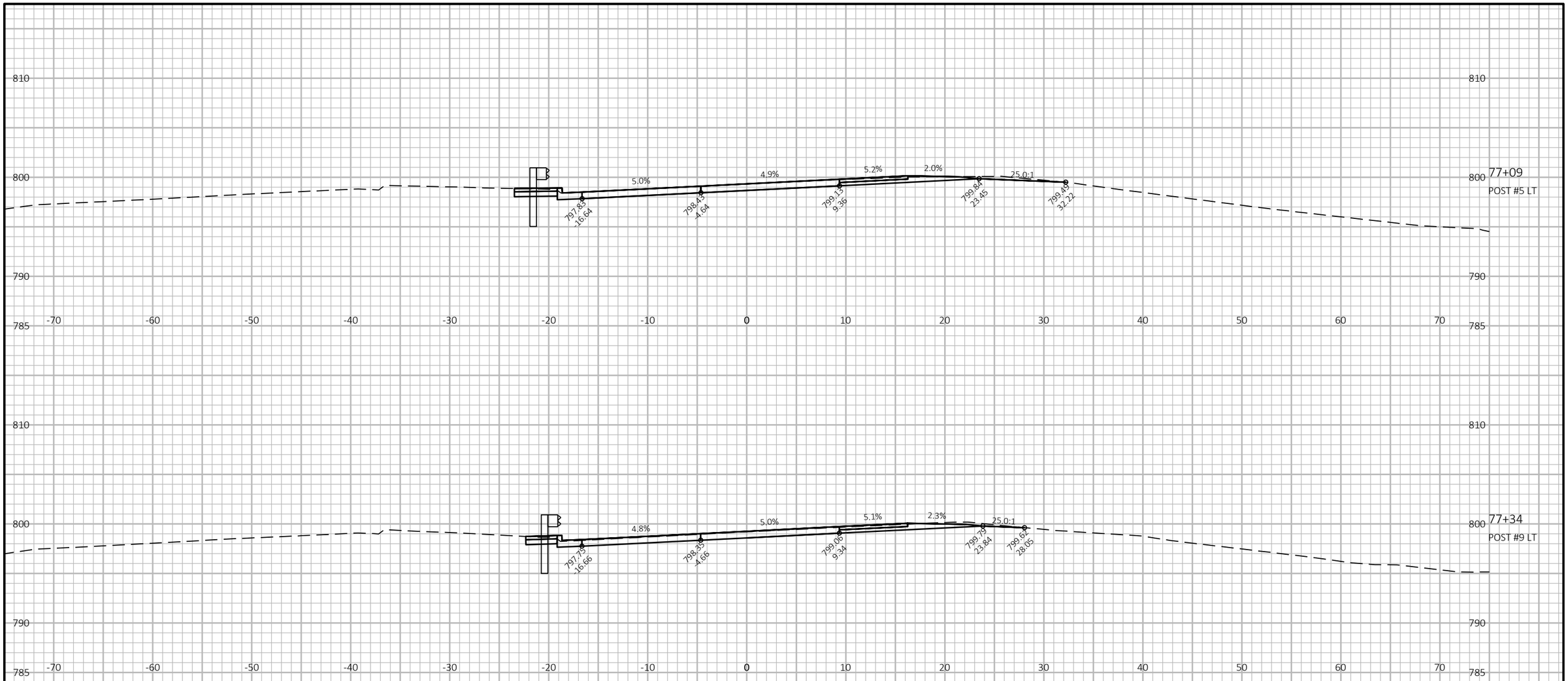

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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: STH 59 (B-67-0152) | SHEET 283 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090201-XS-STH 59.DWG
LAYOUT NAME - 01

PLOT DATE : 3/20/2023 12:59 PM PLOT BY : TOM ORNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



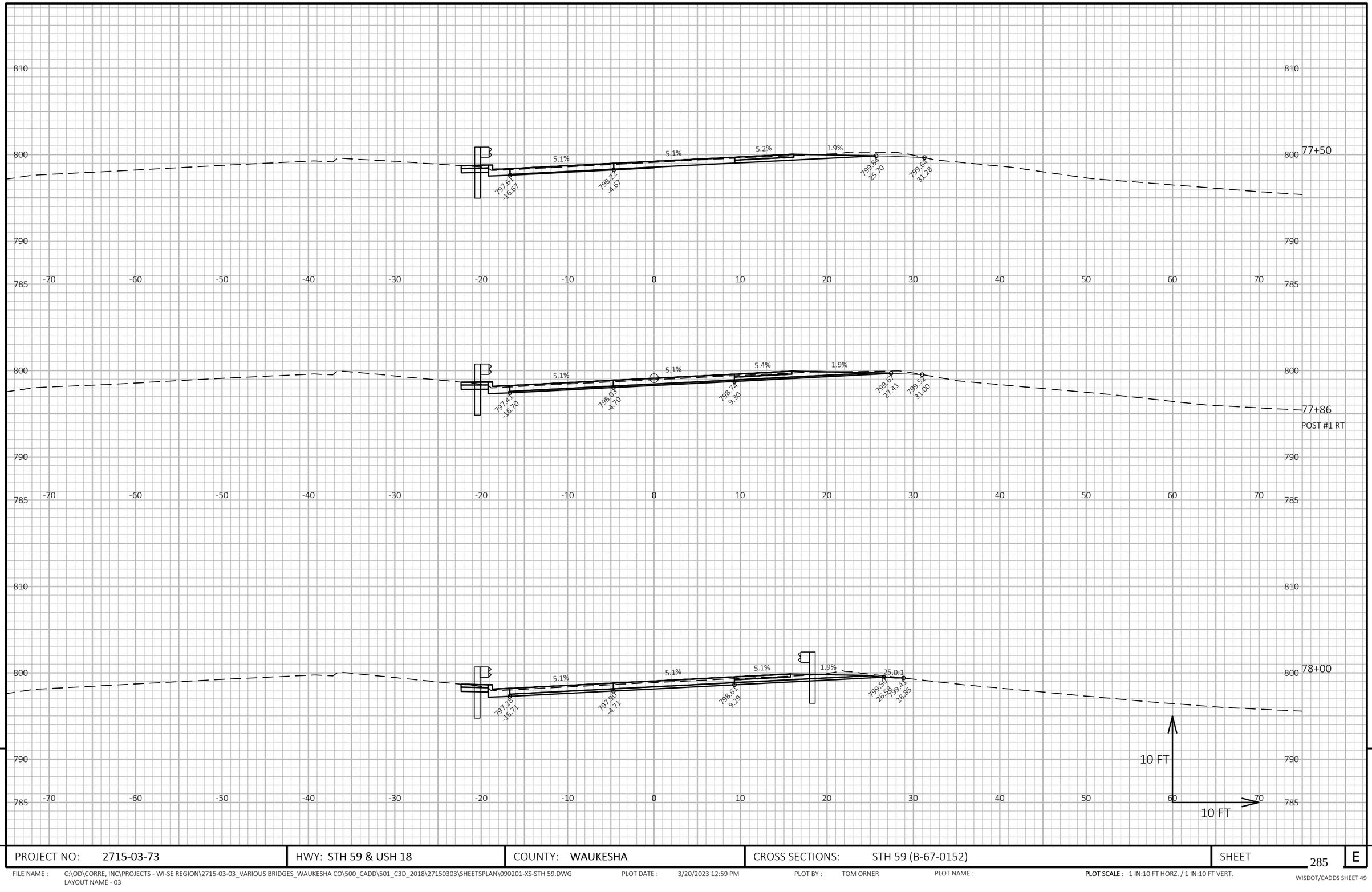

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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: STH 59 (B-67-0152) | SHEET 284 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090201-XS-STH 59.DWG
LAYOUT NAME - 02

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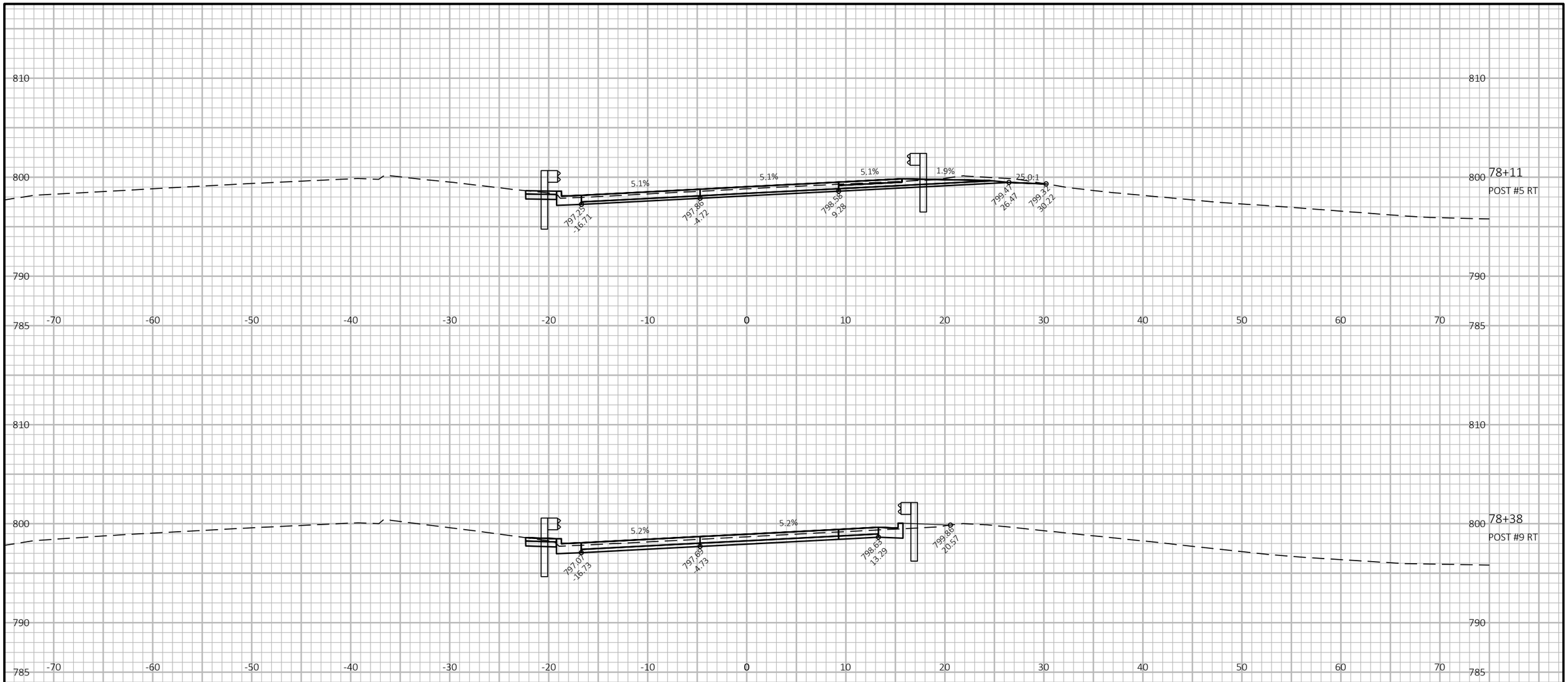



| | | | | | |
|---|---|---|---|---|---|
| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: STH 59 (B-67-0152) | SHEET 285 | E |

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090201-XS-STH 59.DWG
LAYOUT NAME - 03

PLOT DATE : 3/20/2023 12:59 PM PLOT BY : TOM ORNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




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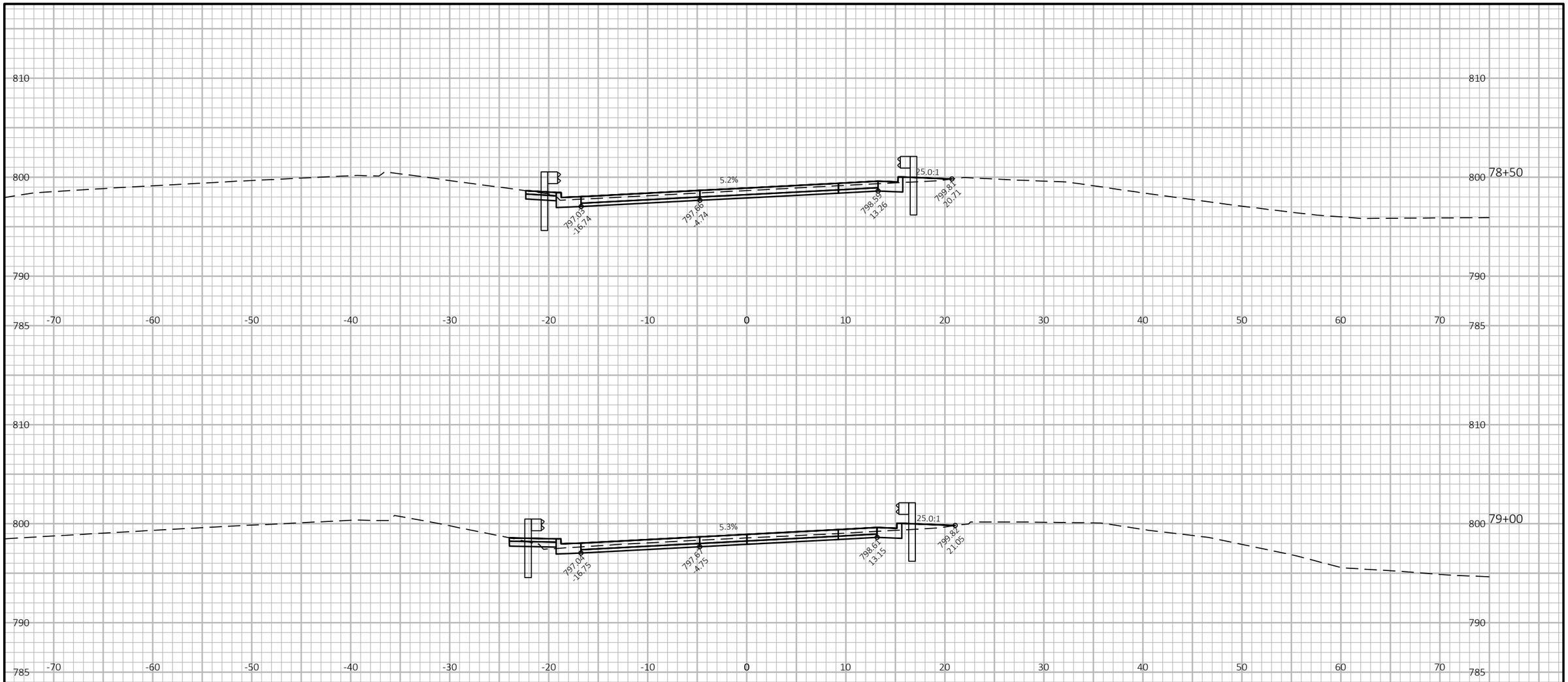
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: STH 59 (B-67-0152) | SHEET 286 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090201-XS-STH 59.DWG
LAYOUT NAME - 04

PLOT DATE : 3/20/2023 12:59 PM PLOT BY : TOM ORNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



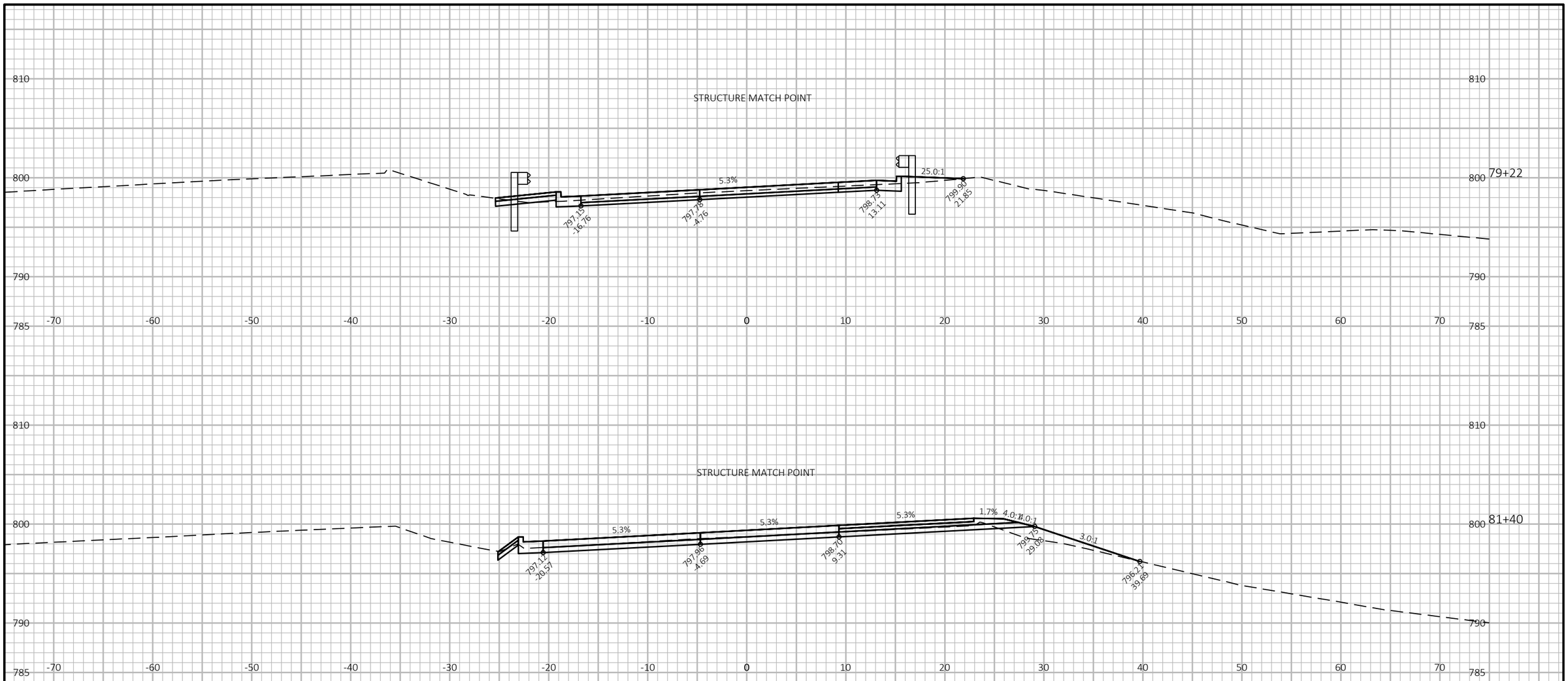

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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: STH 59 (B-67-0152) | SHEET 287 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090201-XS-STH 59.DWG
LAYOUT NAME - 05

PLOT DATE : 3/20/2023 1:00 PM PLOT BY : TOM ORNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



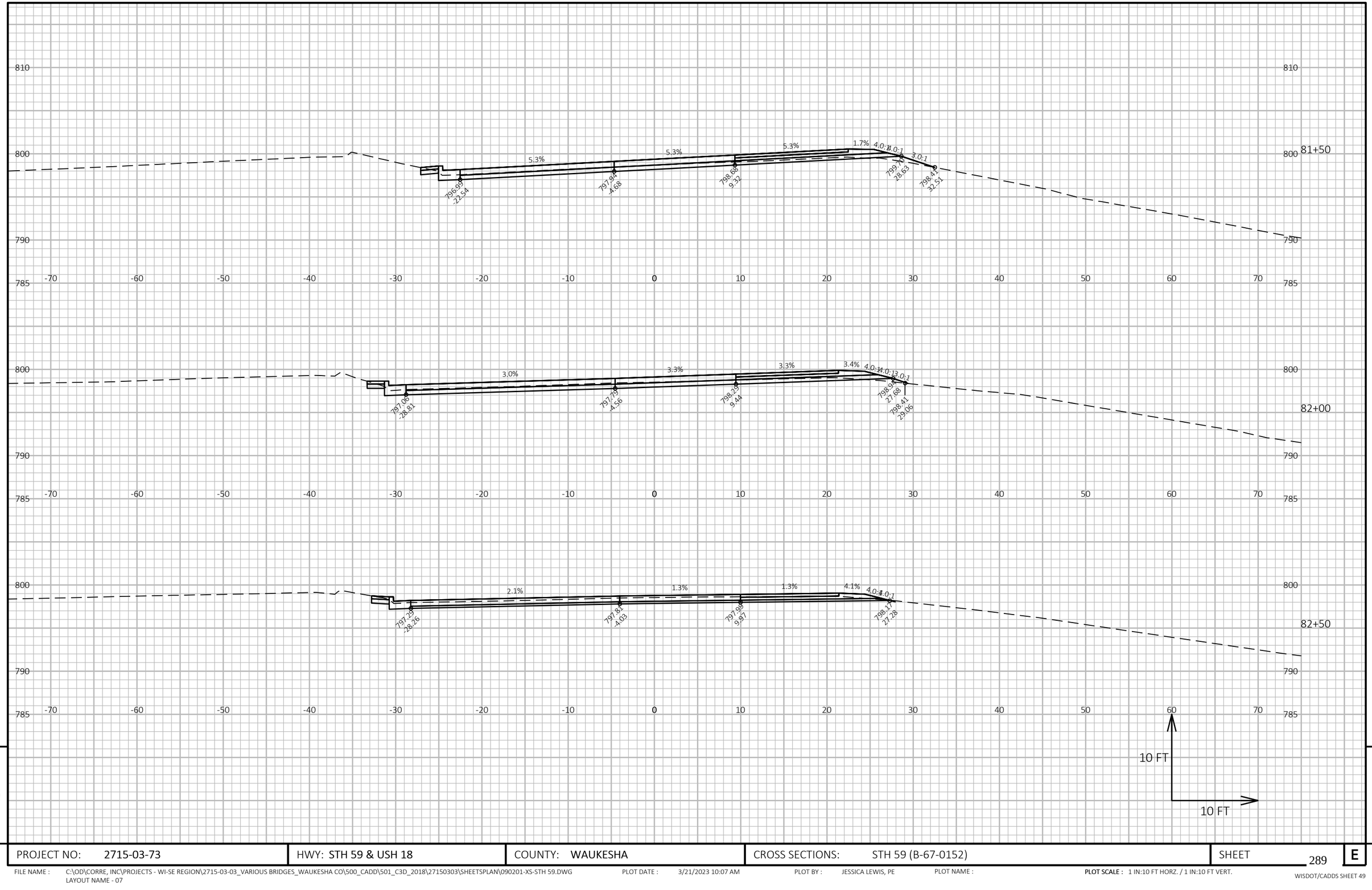

9

9

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: STH 59 (B-67-0152) | SHEET 288 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090201-XS-STH 59.DWG
LAYOUT NAME - 06

PLOT DATE : 3/20/2023 1:00 PM PLOT BY : TOM ORNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.




9

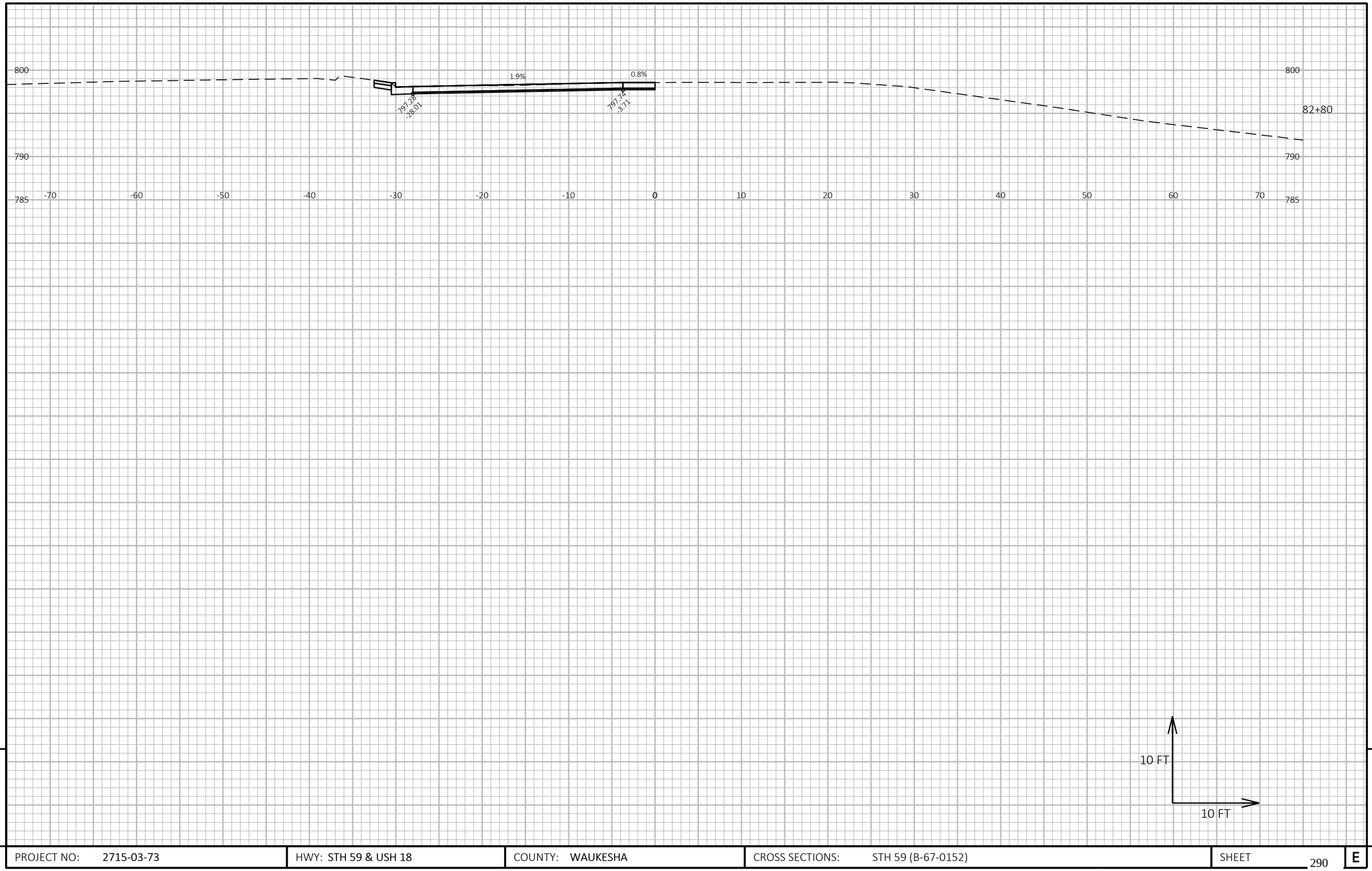
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: STH 59 (B-67-0152) | SHEET 289 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090201-XS-STH 59.DWG
LAYOUT NAME - 07

PLOT DATE : 3/21/2023 10:07 AM PLOT BY : JESSICA LEWIS, PE PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

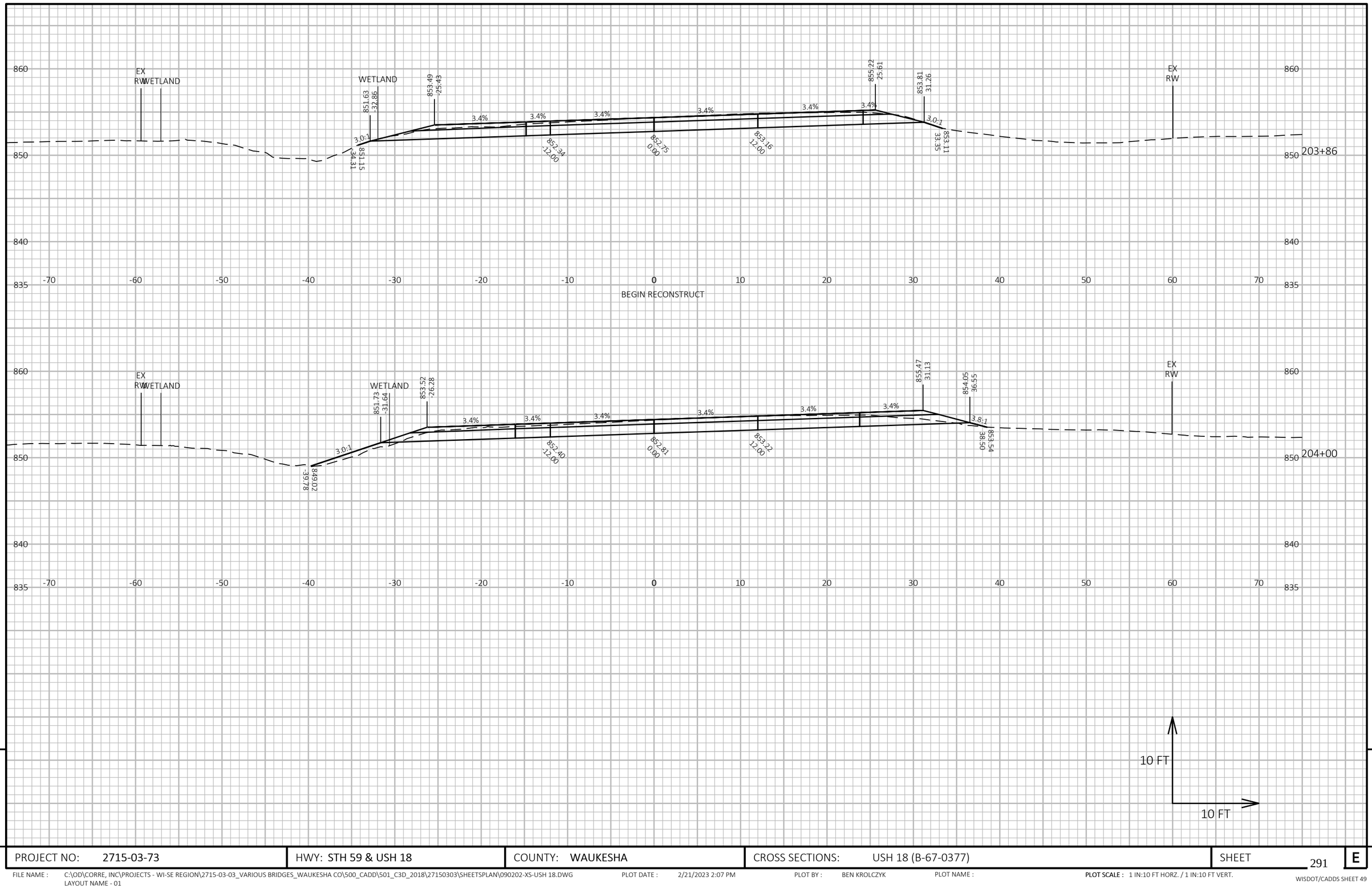
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: STH 59 (B-67-0152) | SHEET 290 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090201-XS-STH 59.DWG
LAYOUT NAME - 08

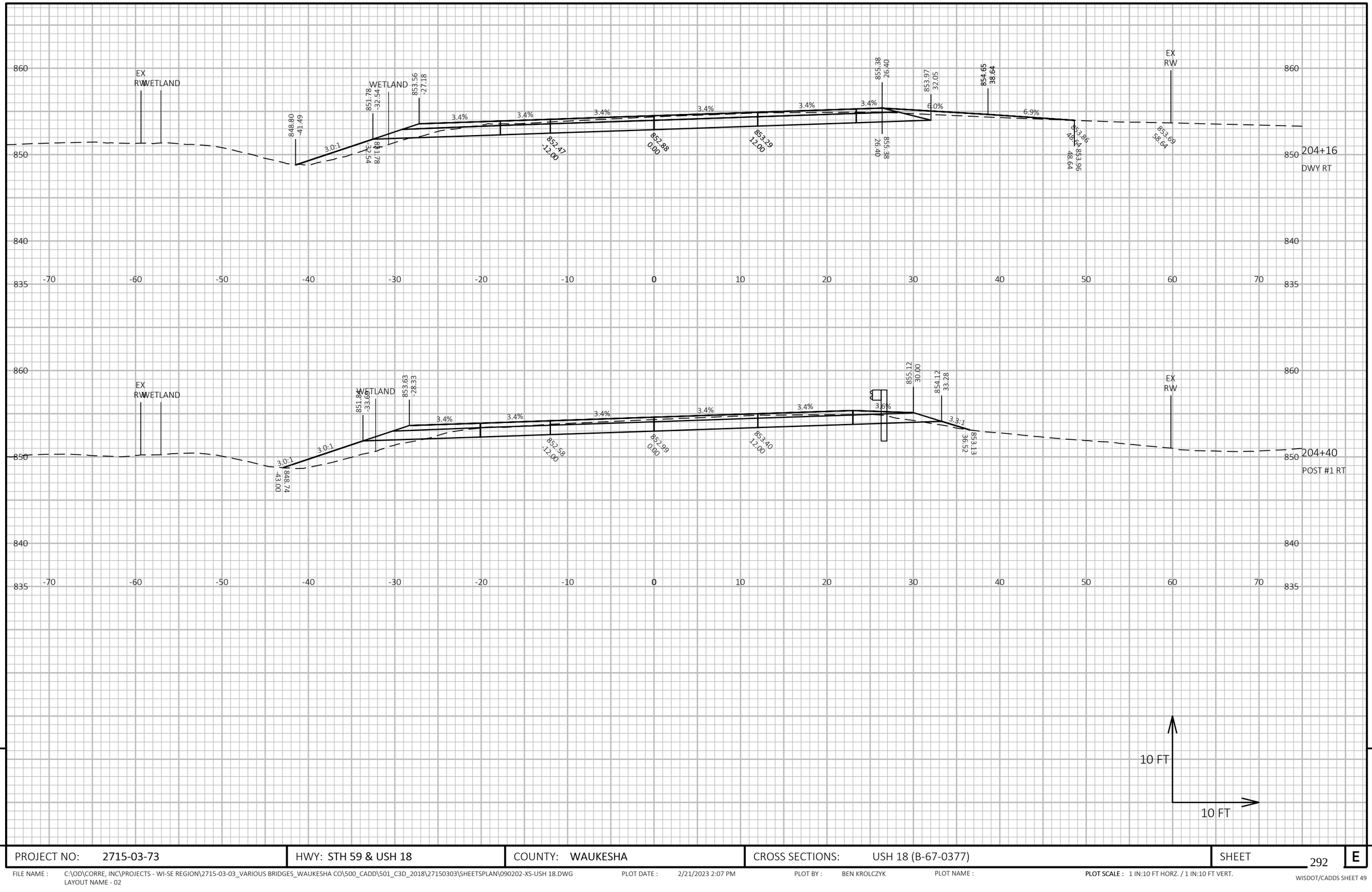
PLOT DATE : 3/20/2023 1:00 PM PLOT BY : TOM ORNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 291 | E |
|---|---|---|---|---|---|


FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 01
PLOT DATE : 2/21/2023 2:07 PM
PLOT BY : BEN KROLCZYK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

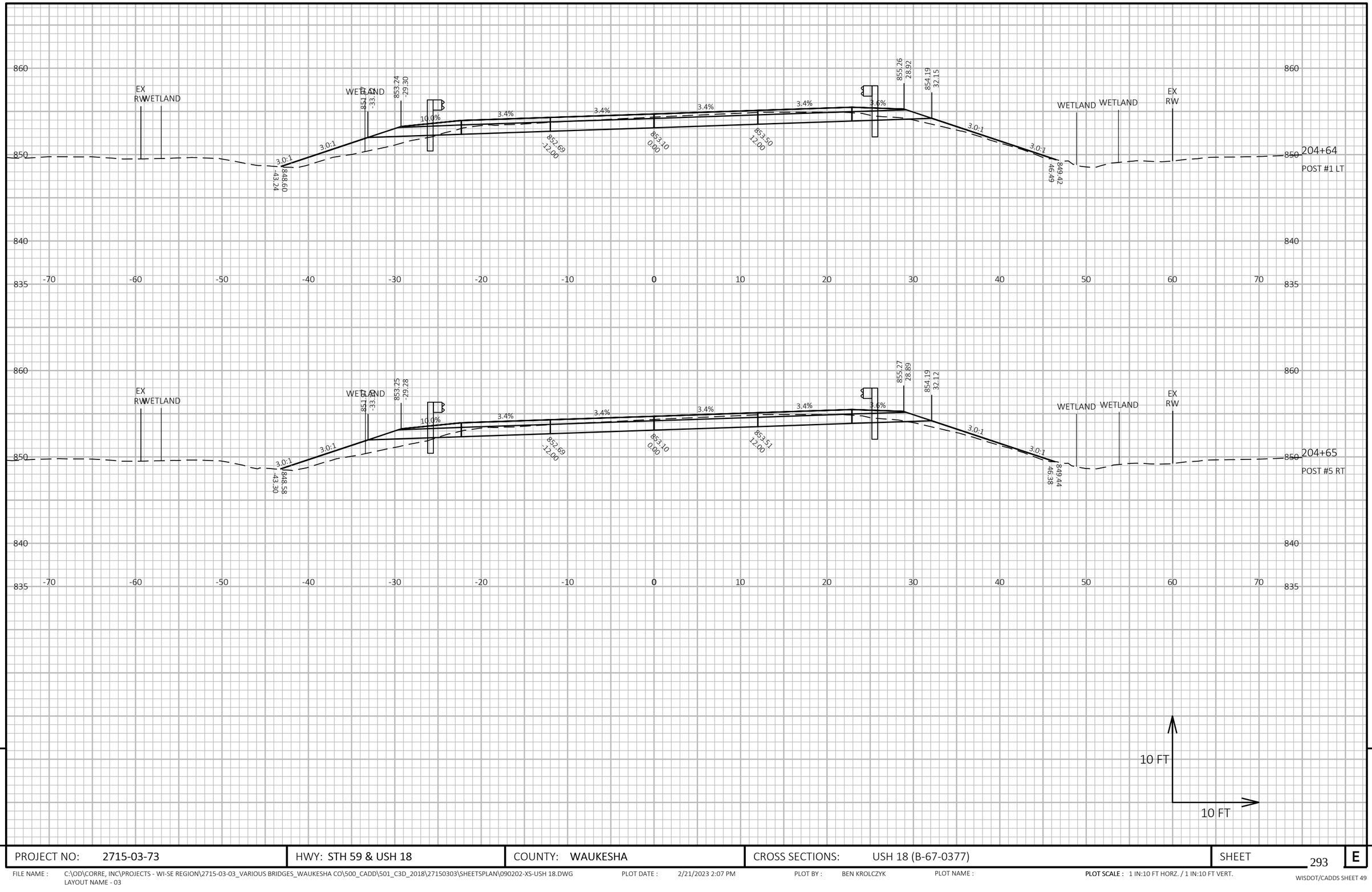



| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 292 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 02

PLOT DATE : 2/21/2023 2:07 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 293 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 03

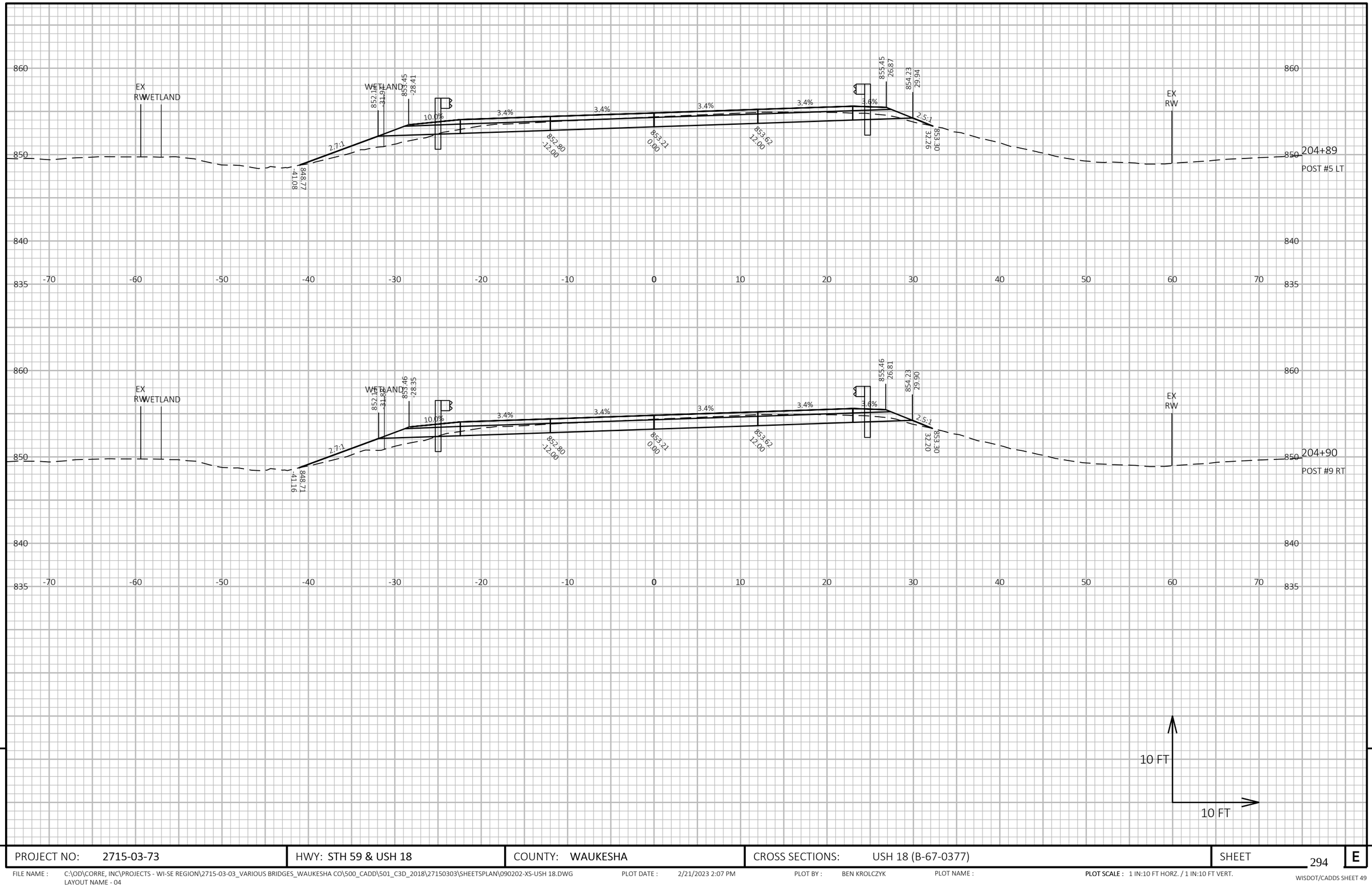
PLOT DATE : 2/21/2023 2:07 PM

PLOT BY : BEN KROLCZYK

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

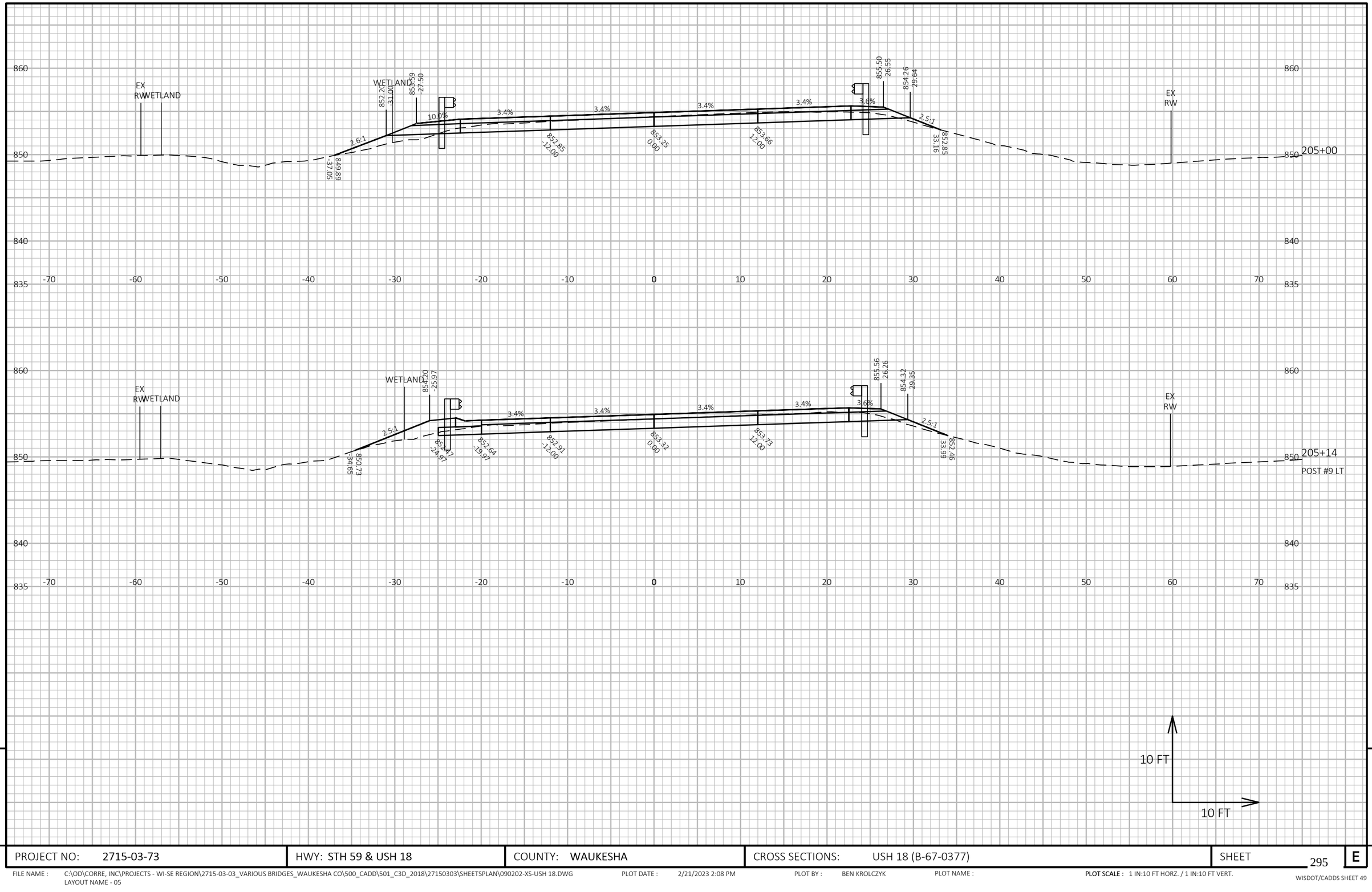
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 294 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 04

PLOT DATE : 2/21/2023 2:07 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

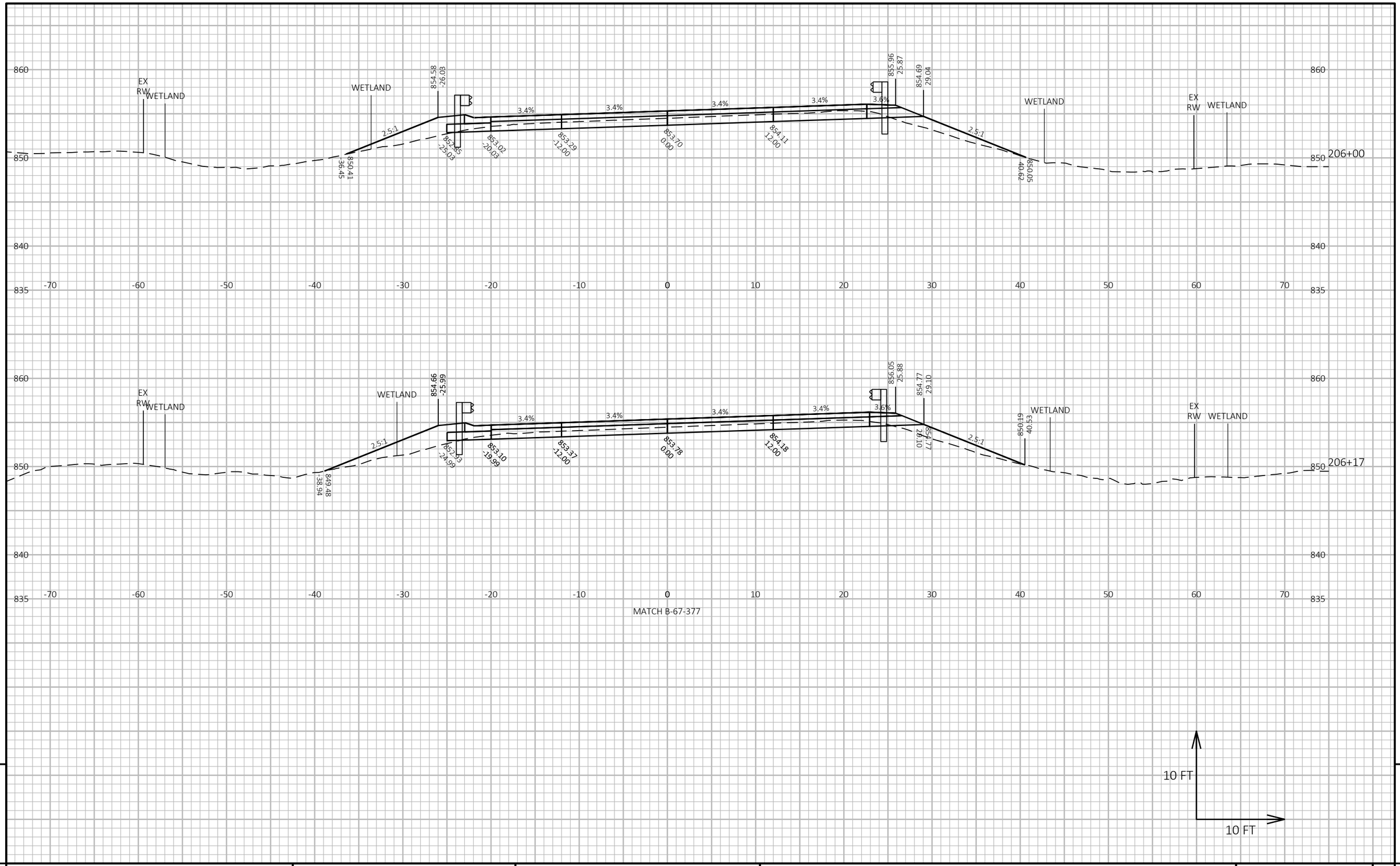
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 295 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 05

PLOT DATE : 2/21/2023 2:08 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



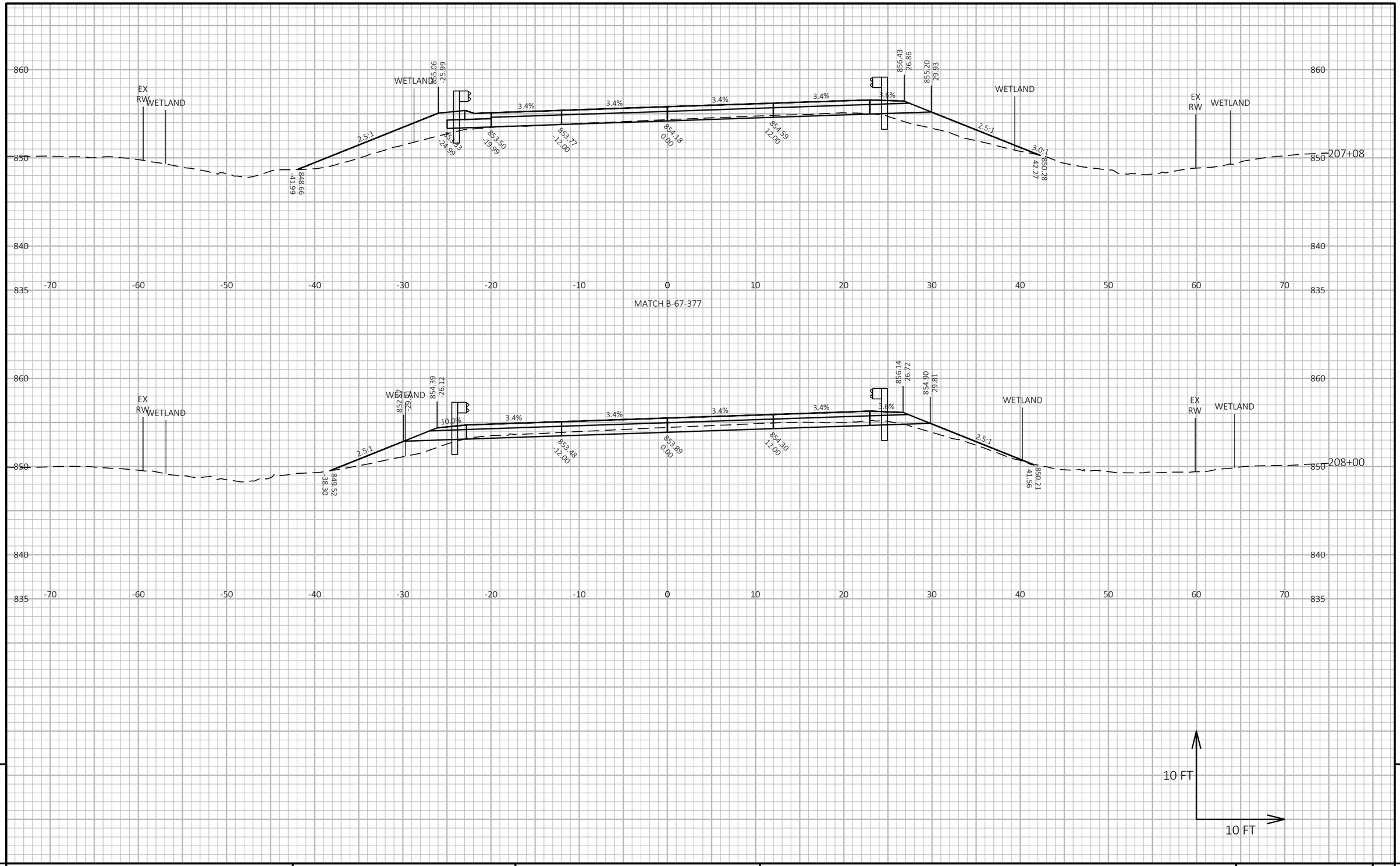

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9

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 296 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 06

PLOT DATE : 2/21/2023 2:08 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



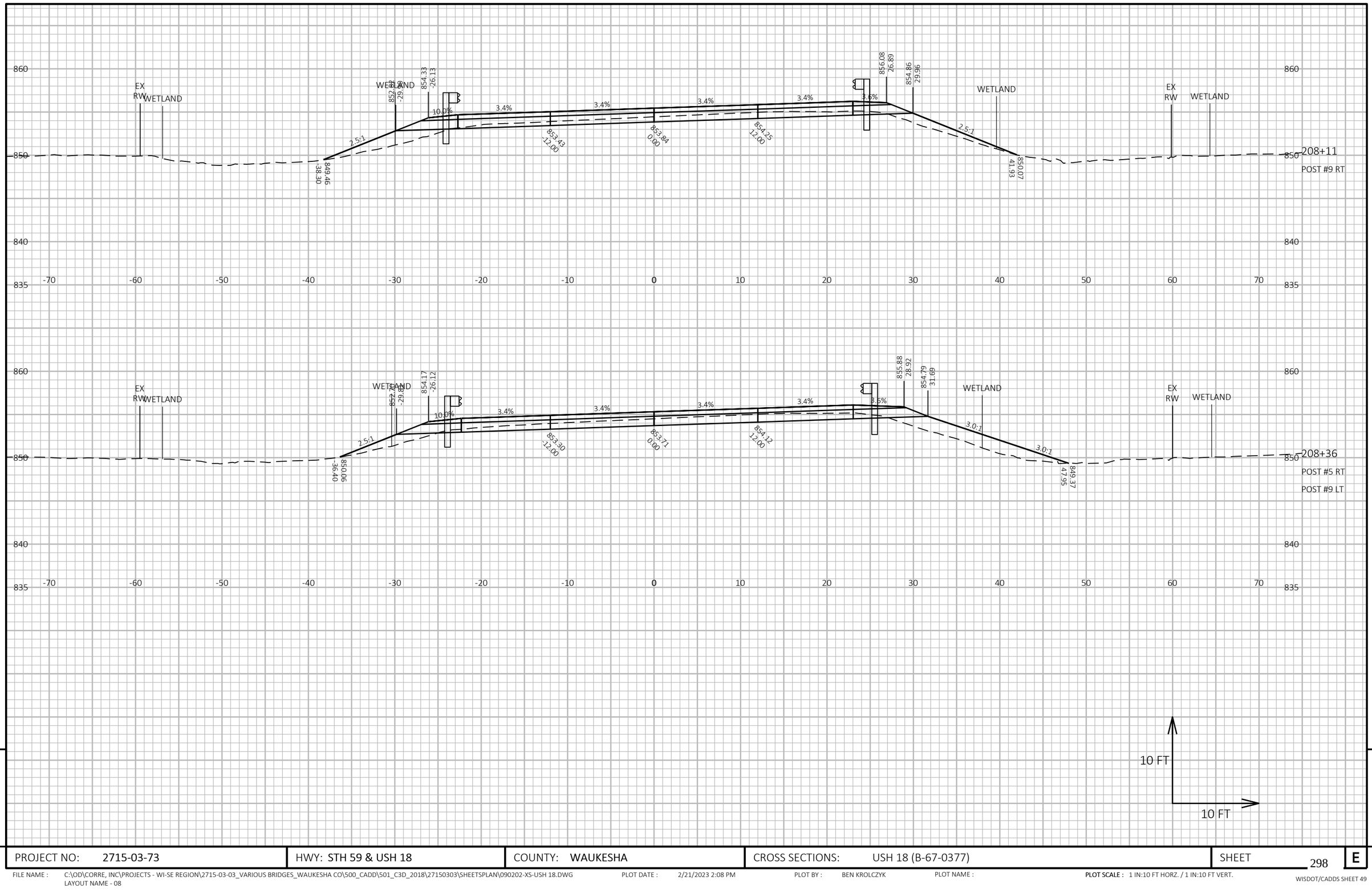

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9

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 297 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 07

PLOT DATE : 2/21/2023 2:08 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.




9

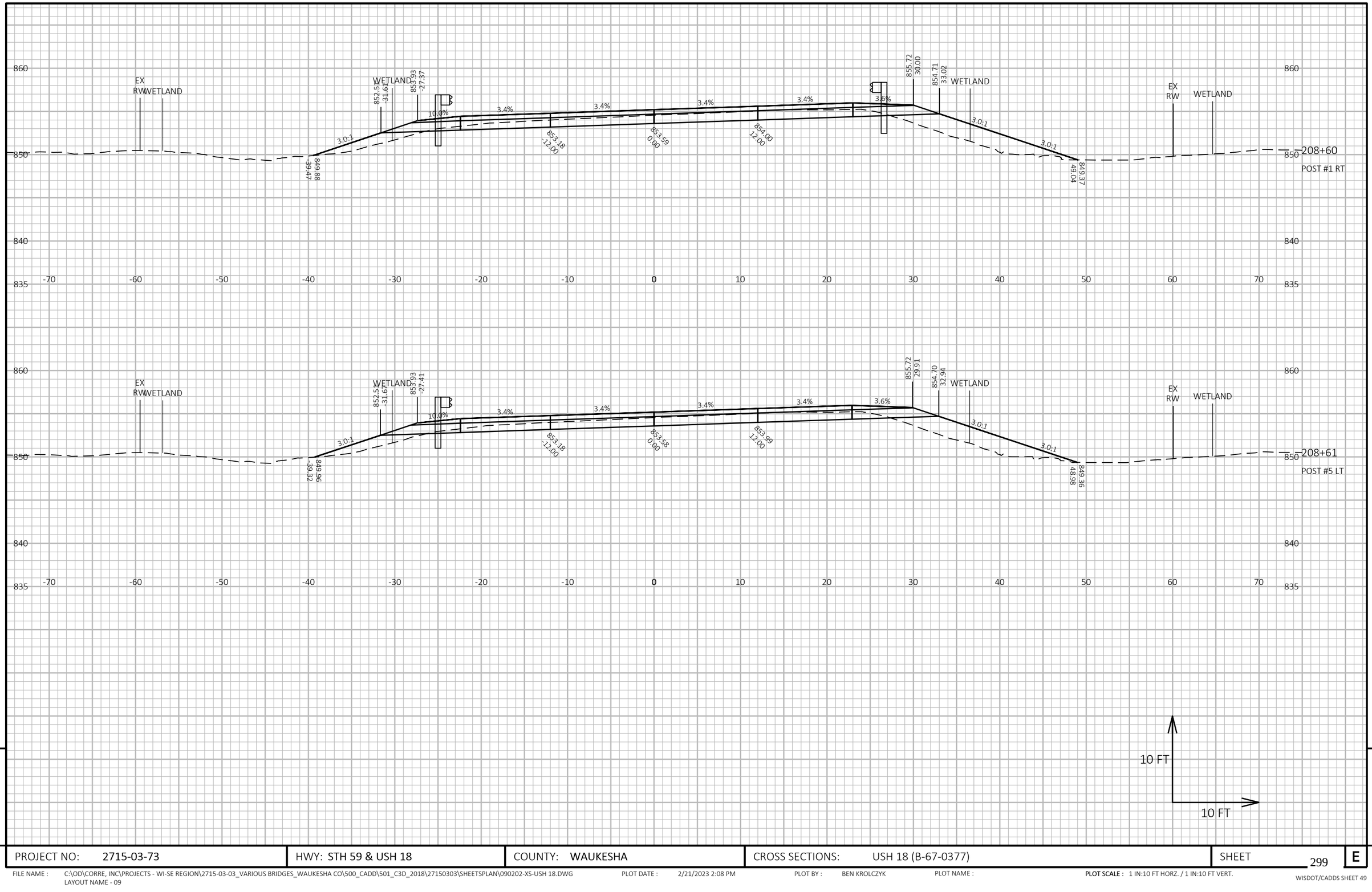
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 298 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 08

PLOT DATE : 2/21/2023 2:08 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

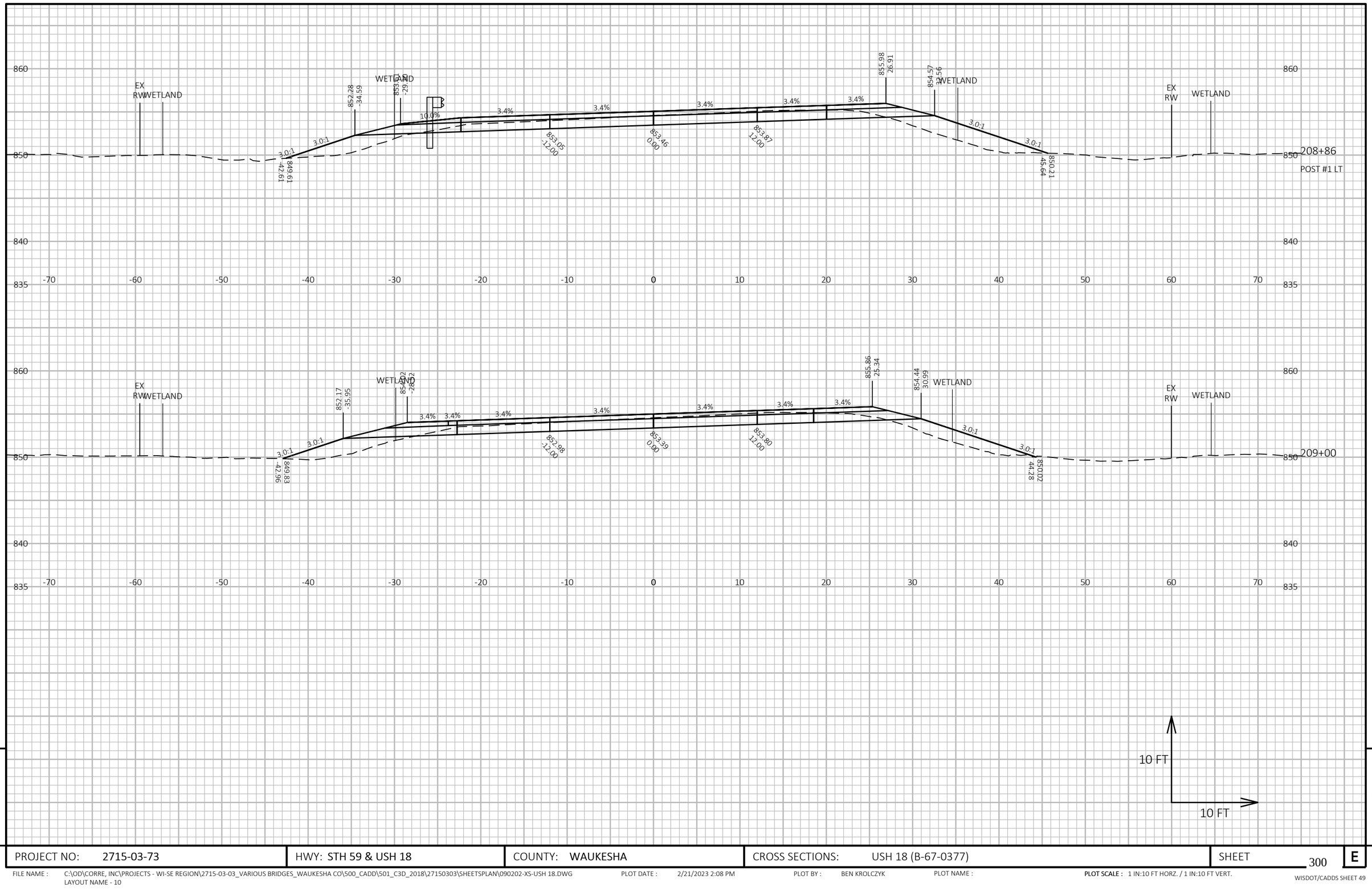
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 299 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 09

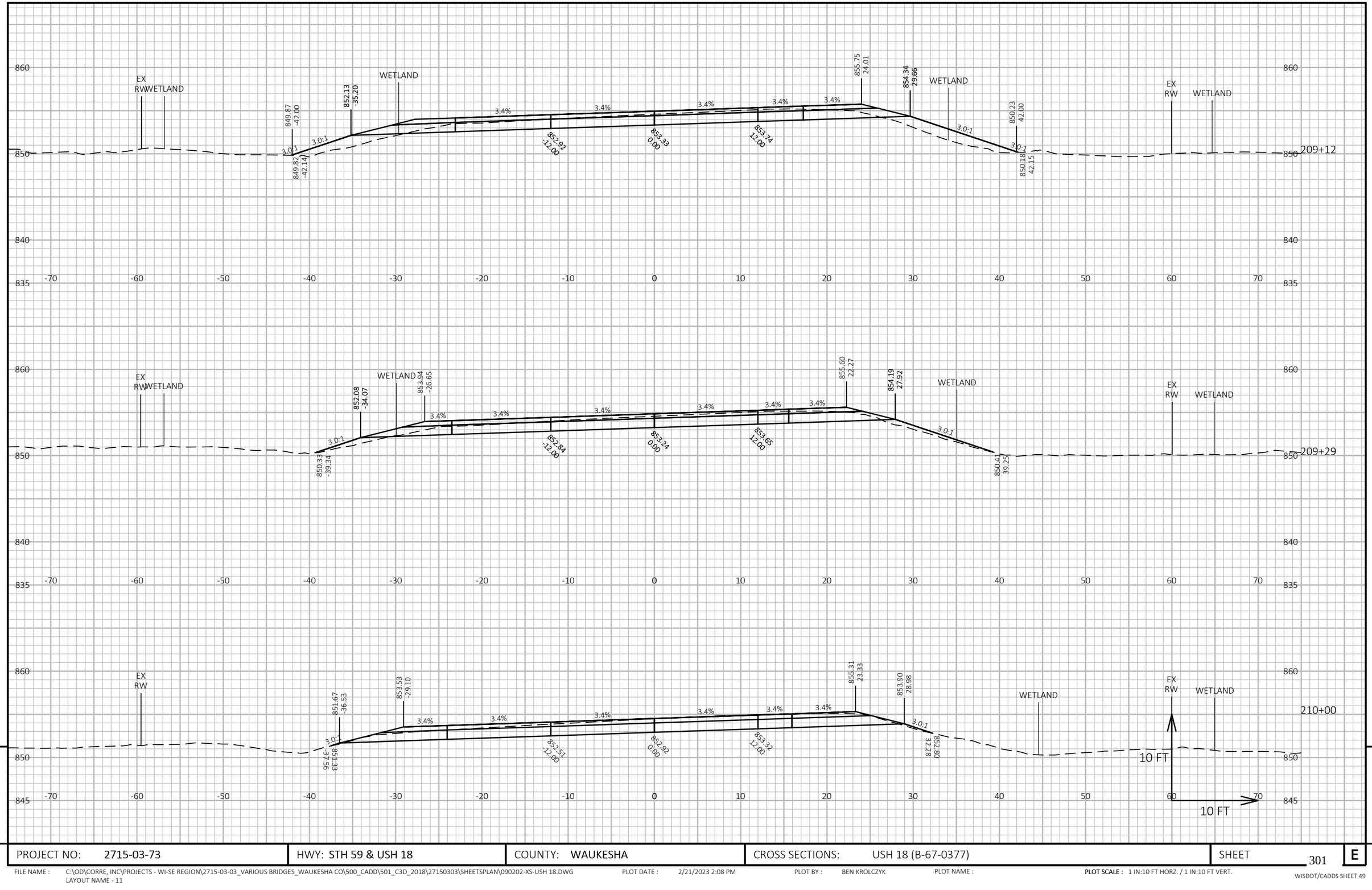
PLOT DATE : 2/21/2023 2:08 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 300 | E |
|---|---|---|---|---|---|

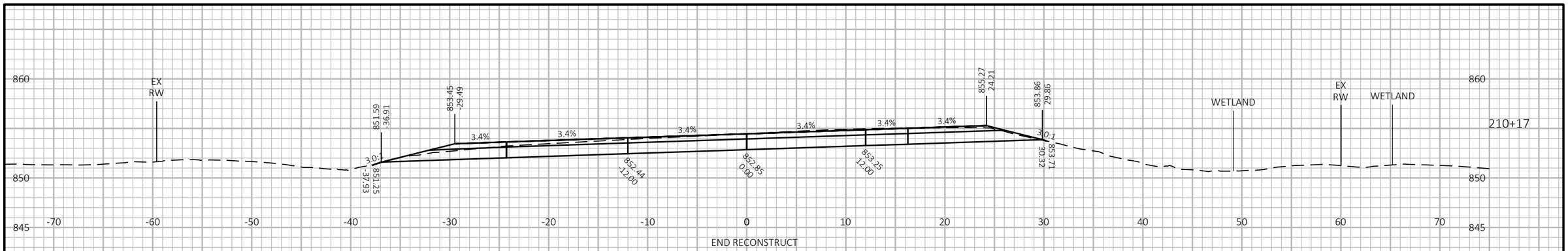


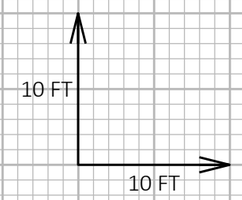

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 301 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 11

PLOT DATE : 2/21/2023 2:08 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

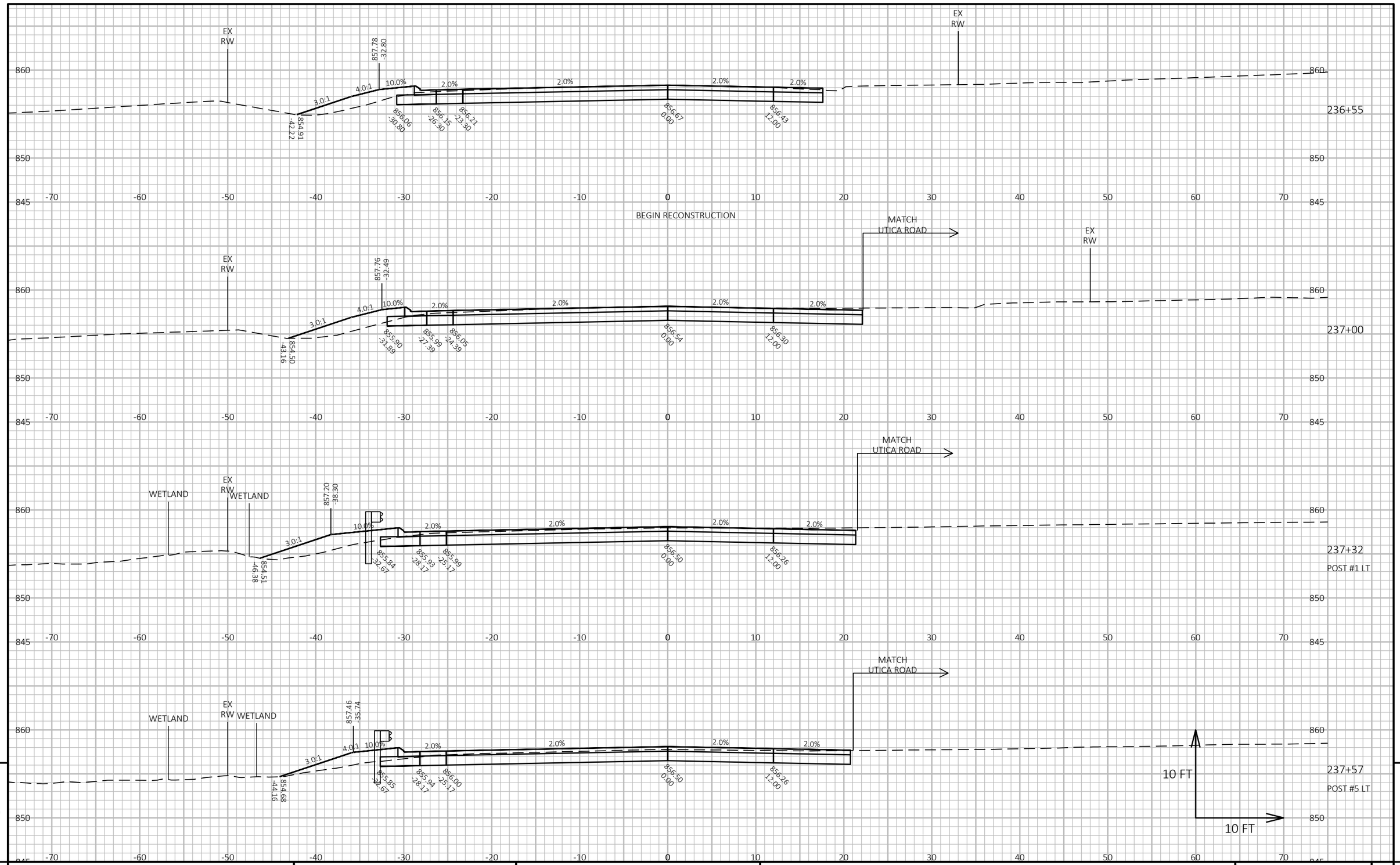
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0377) | SHEET 302 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 12

PLOT DATE : 2/21/2023 2:08 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

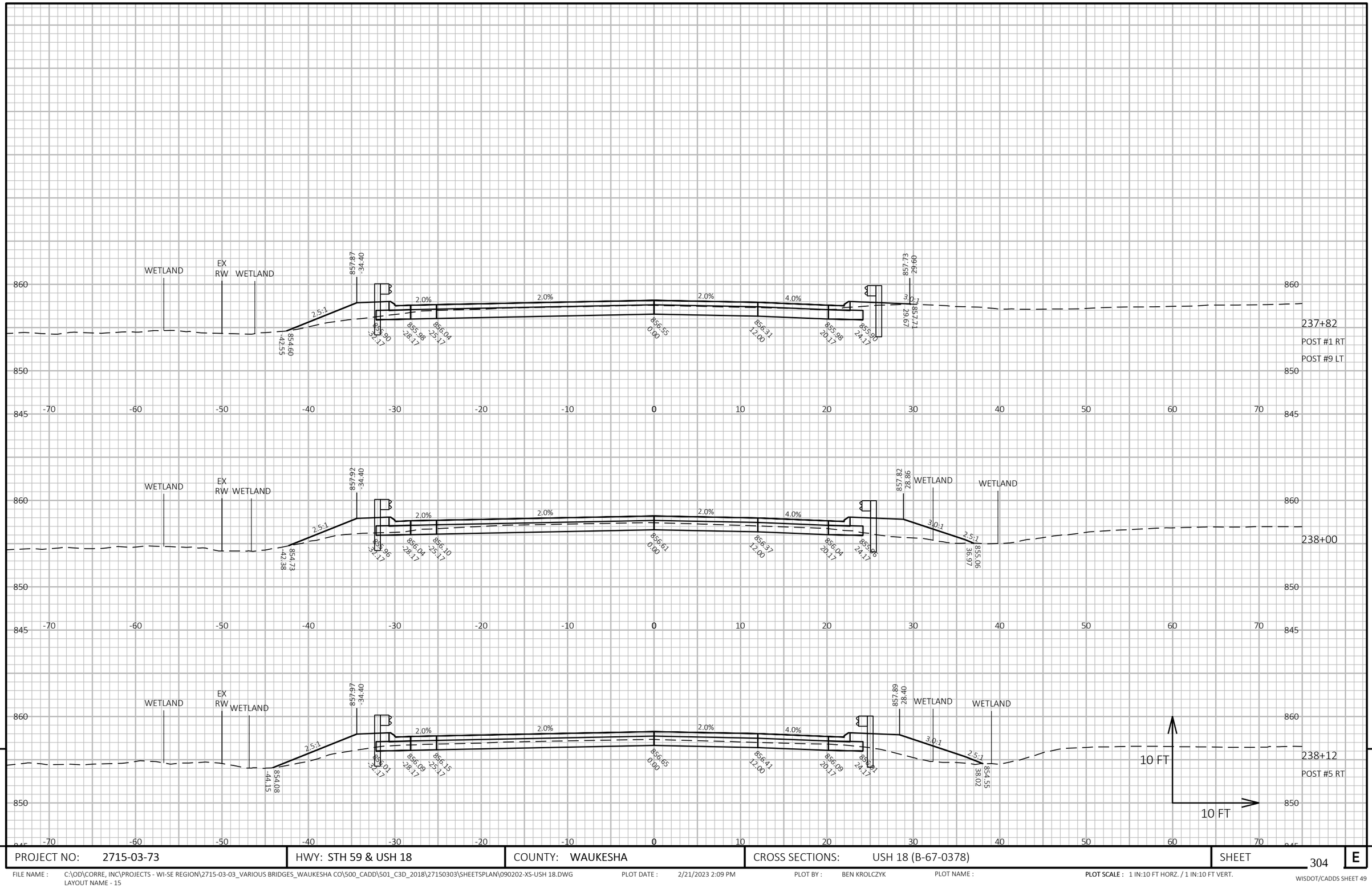
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0378) | SHEET 303 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 14

PLOT DATE : 2/21/2023 2:09 PM PLOT BY : BEN KROLCZYK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0378) | SHEET 304 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 15

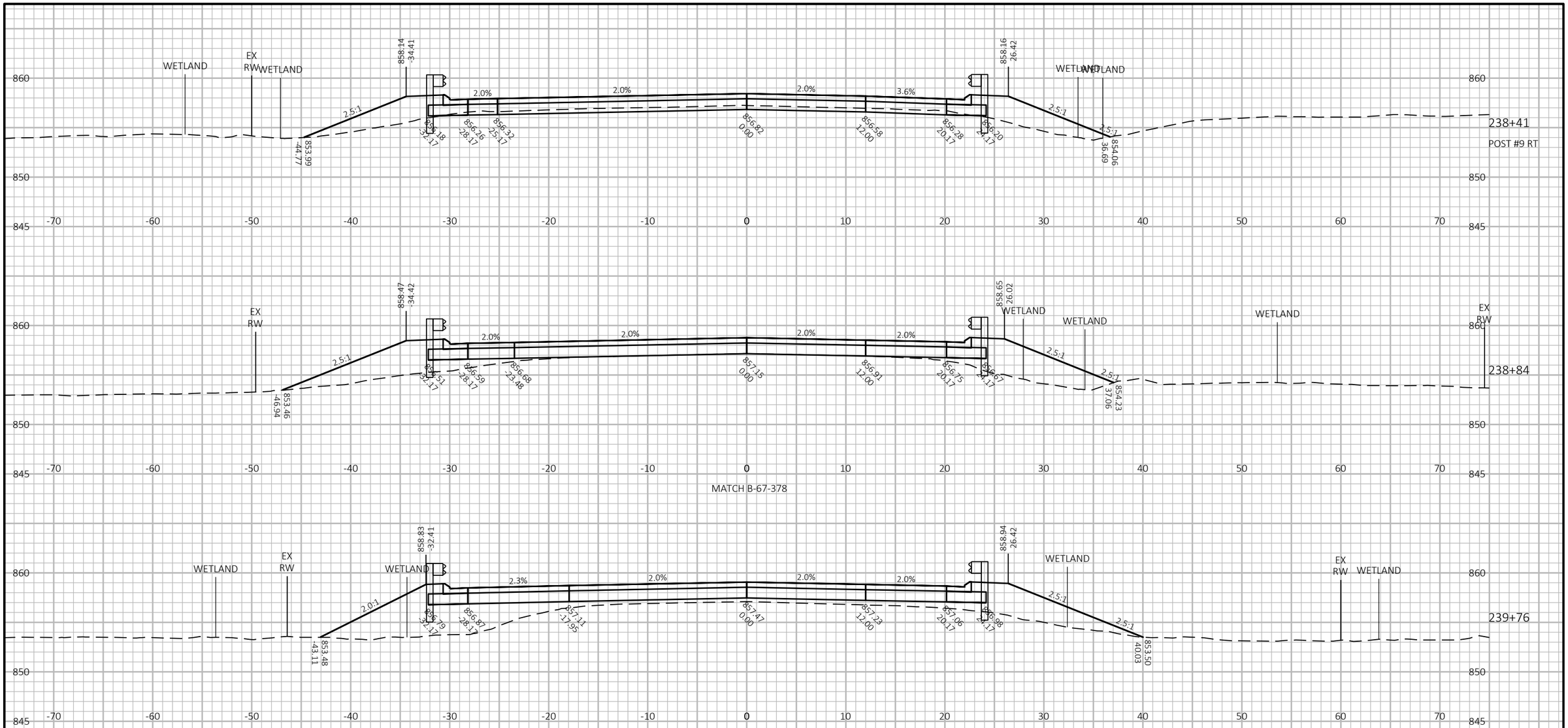
PLOT DATE : 2/21/2023 2:09 PM

PLOT BY : BEN KROLCZYK

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

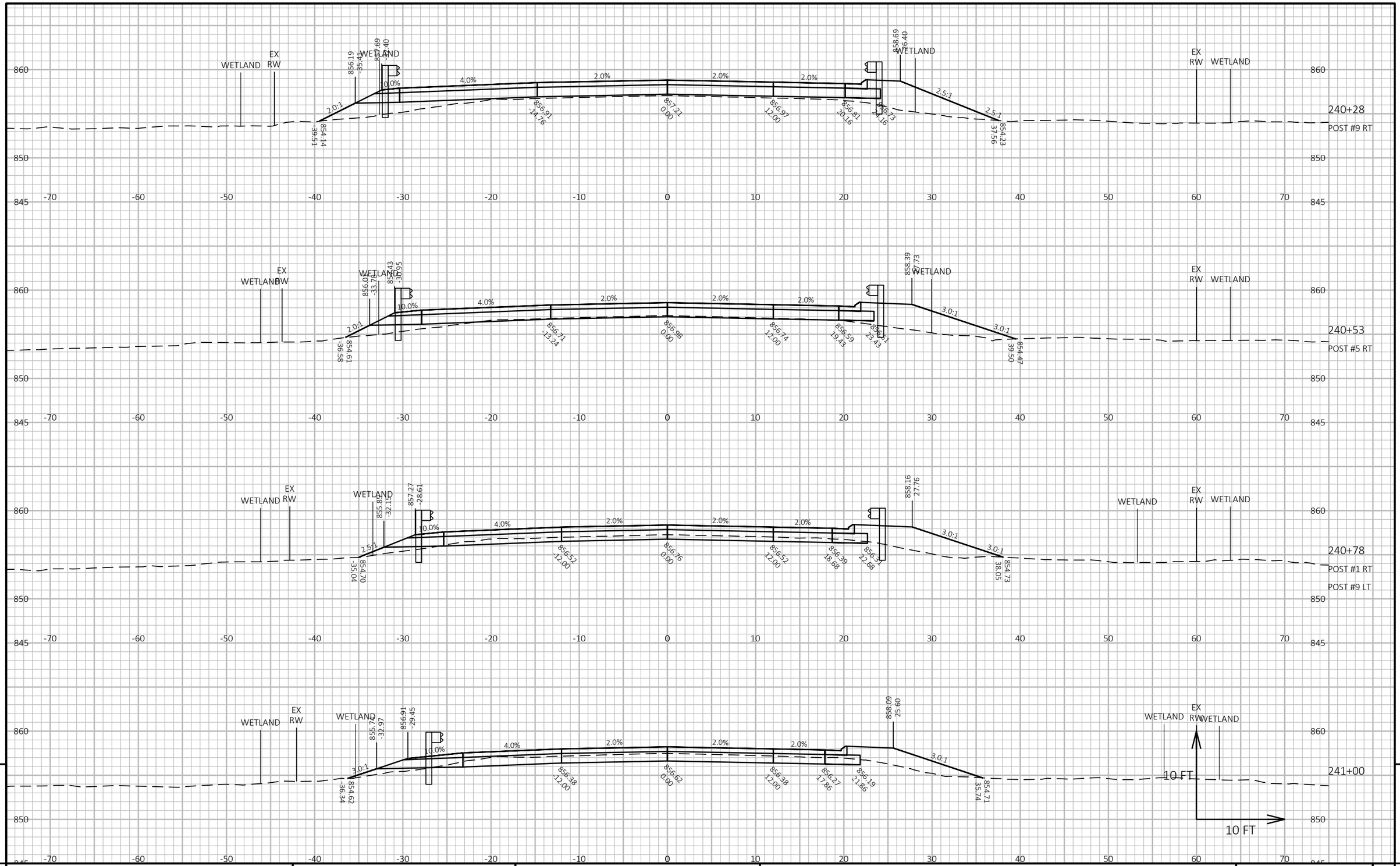
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0378) | SHEET 305 | E |
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FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 16

PLOT DATE : 2/21/2023 2:09 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

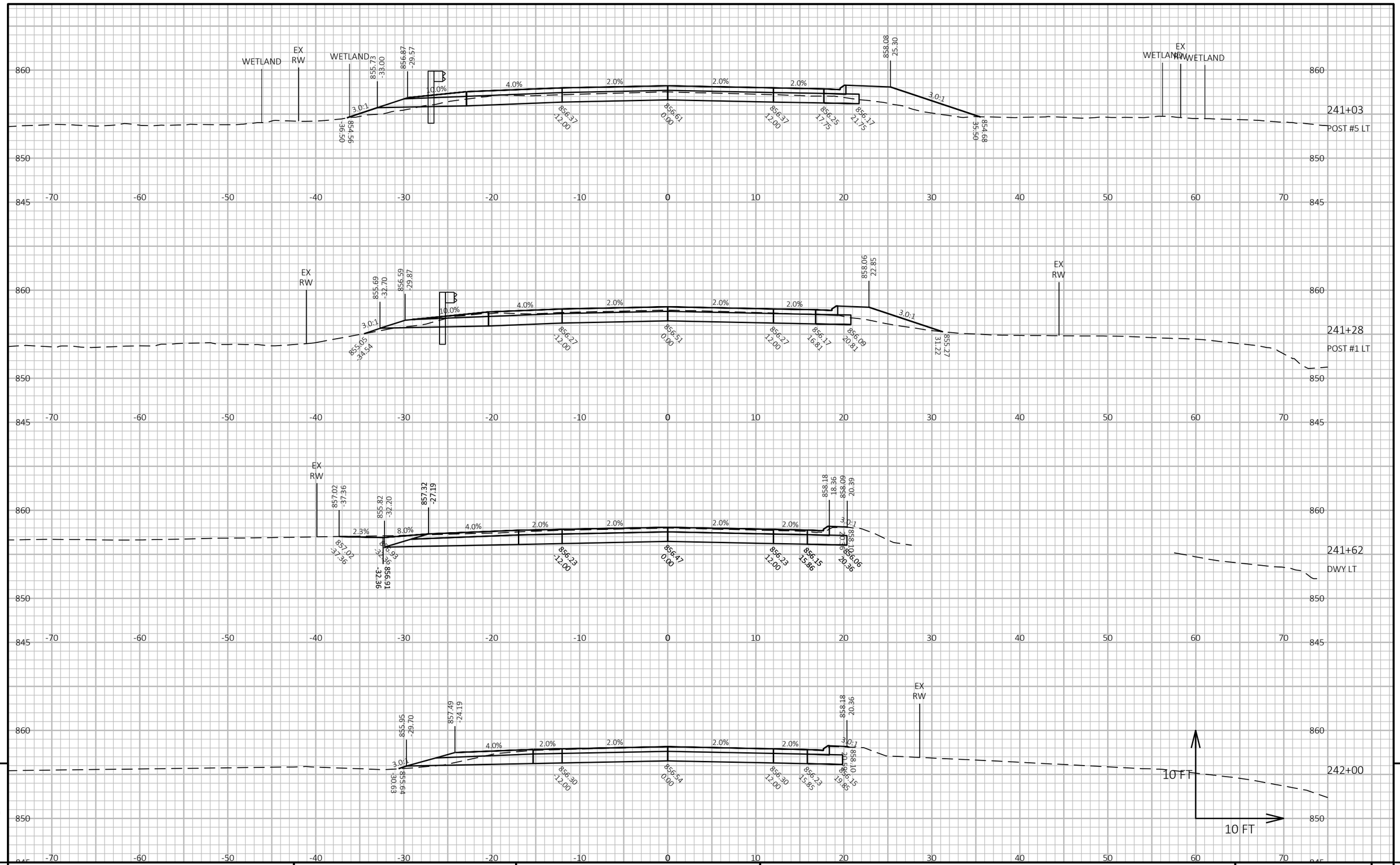
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0378) | SHEET 306 | E |
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FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 17

PLOT DATE : 2/21/2023 2:09 PM PLOT BY : BEN KROLCZYK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

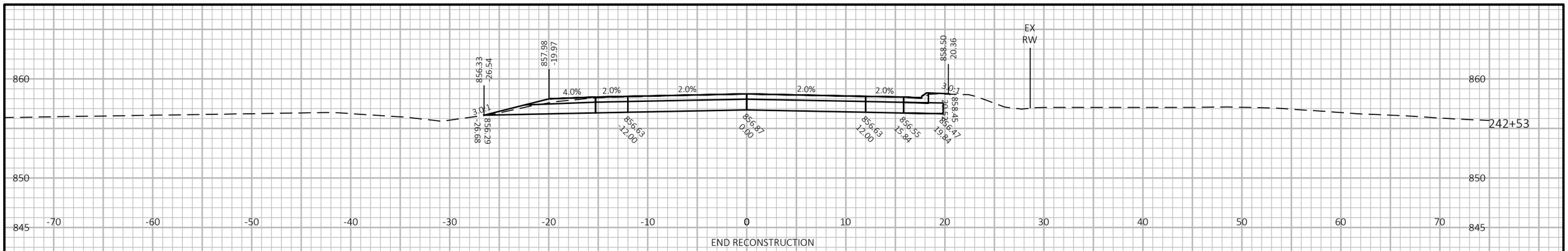


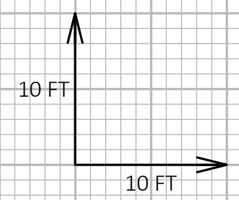

| | | | | |
|---|---|---|---|---|
| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0378) | SHEET 307 E |

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 18

PLOT DATE : 2/21/2023 2:09 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

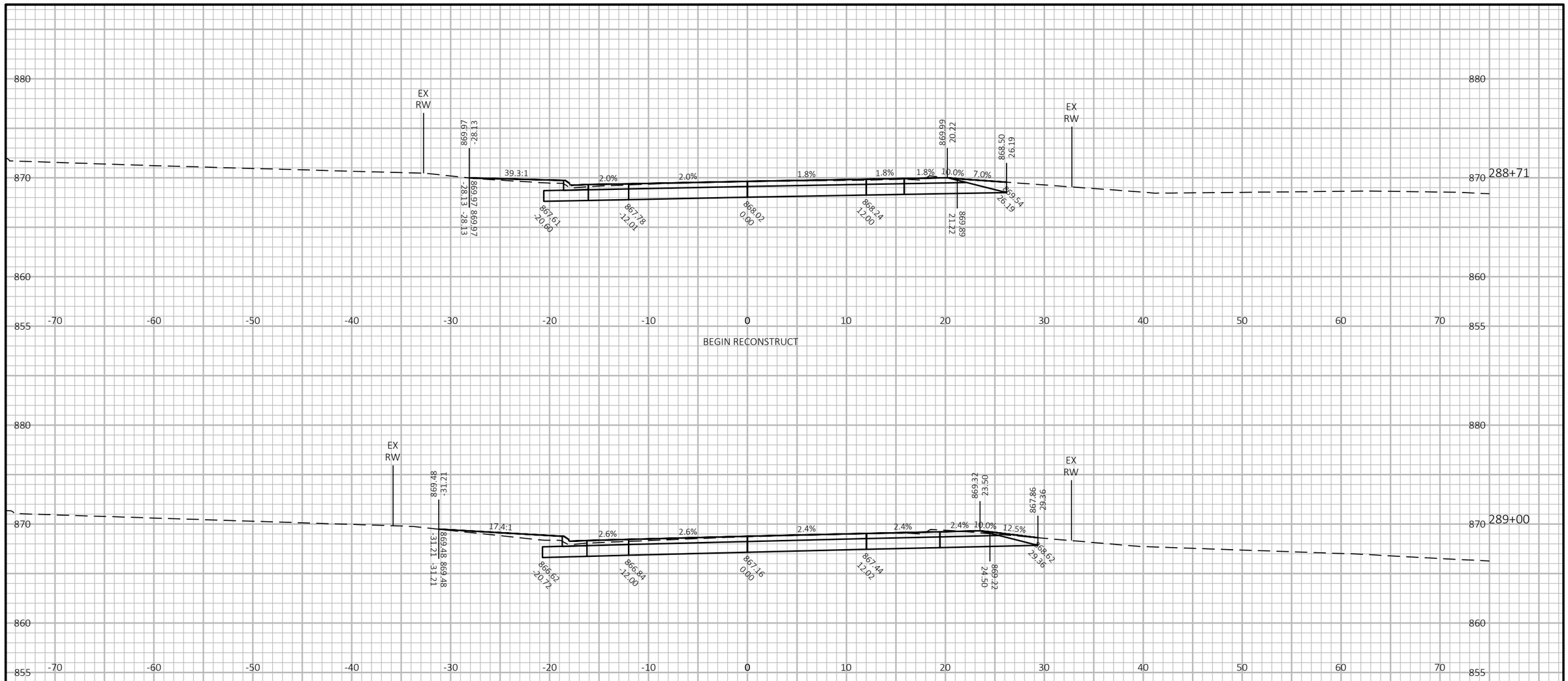
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| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0378) | SHEET 308 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 19

PLOT DATE : 2/21/2023 2:09 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

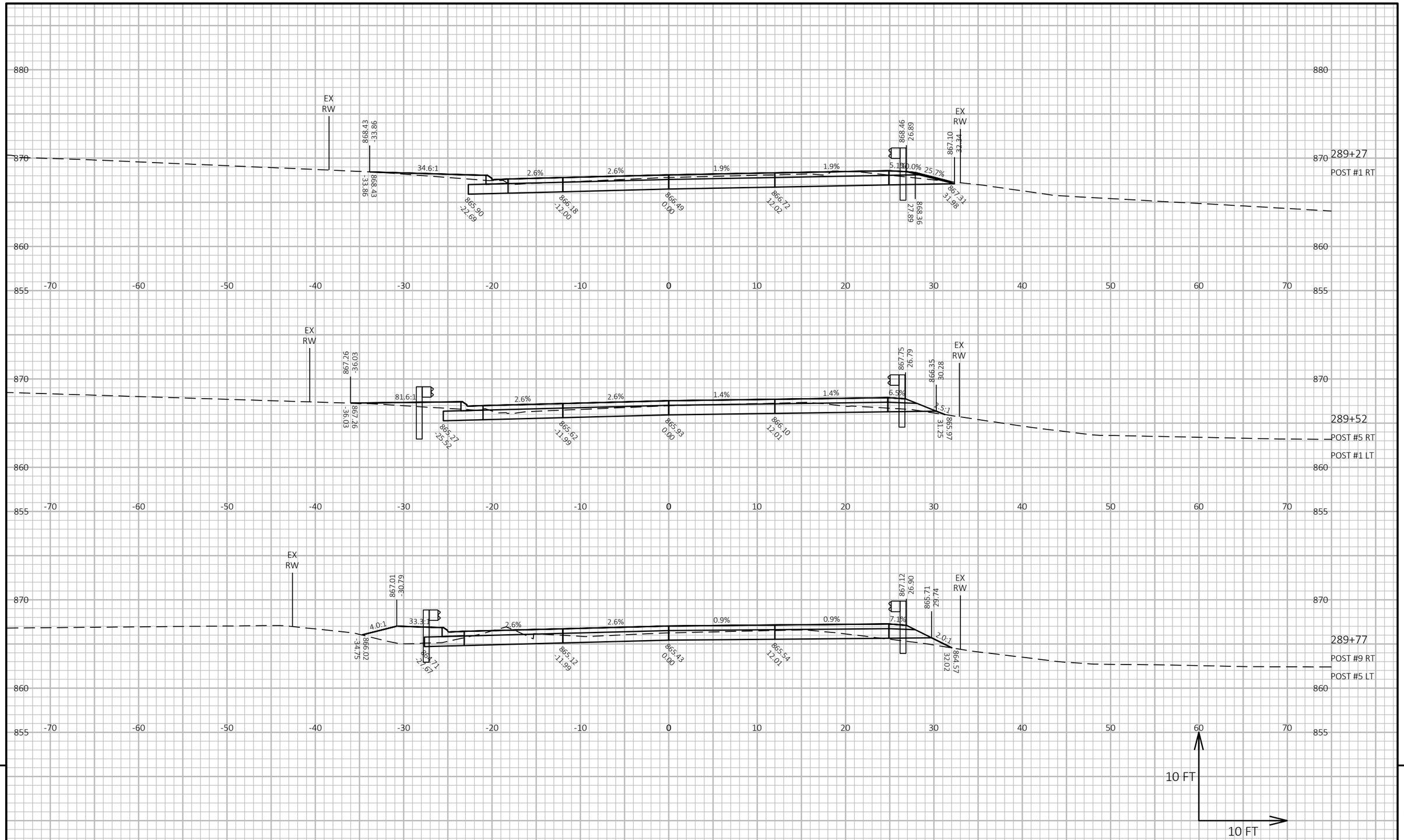



| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0379) | SHEET 309 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 20

PLOT DATE : 2/21/2023 2:09 PM PLOT BY : BEN KROLCZYK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




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9

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0379) | SHEET 310 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 21

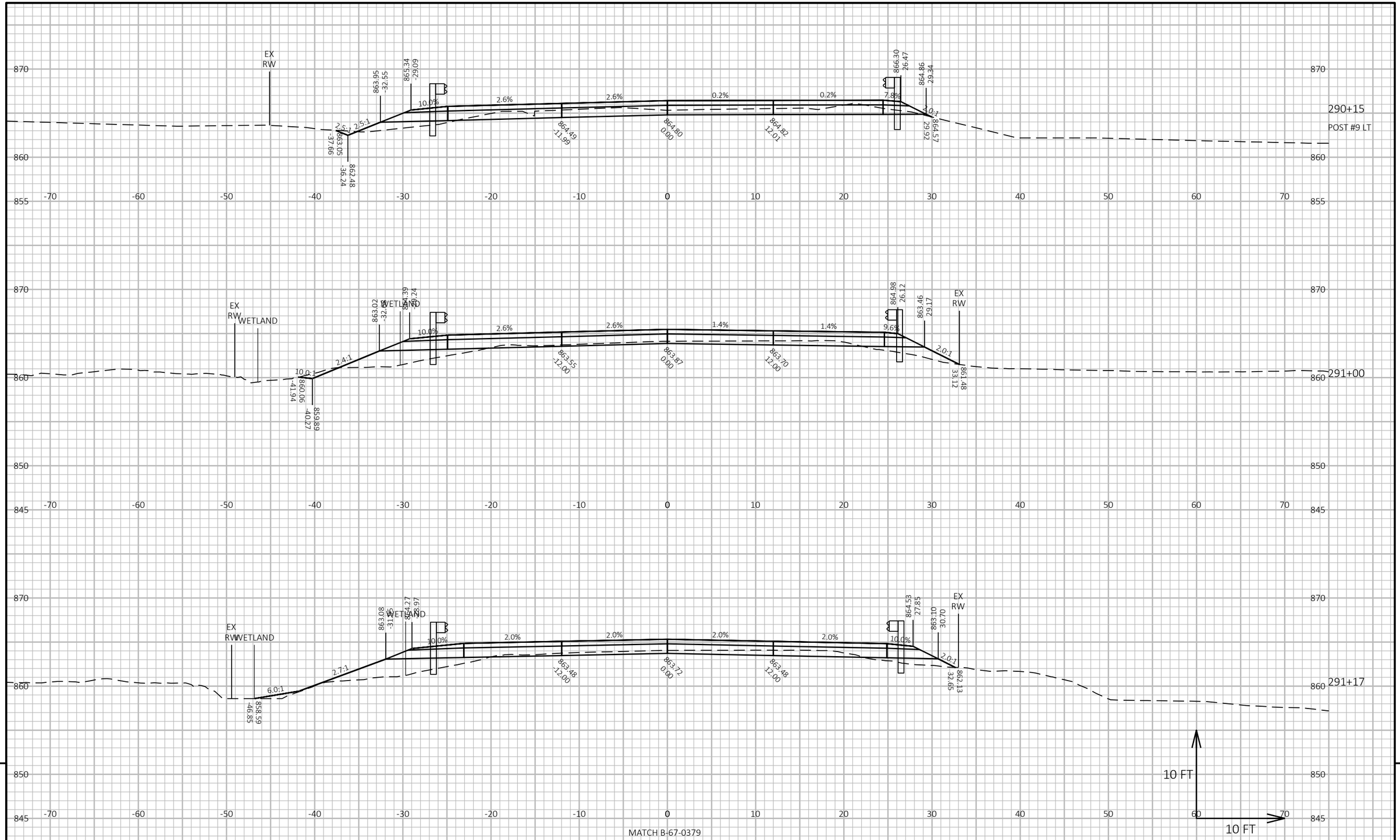
PLOT DATE : 2/21/2023 2:09 PM

PLOT BY : BEN KROLCZYK

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

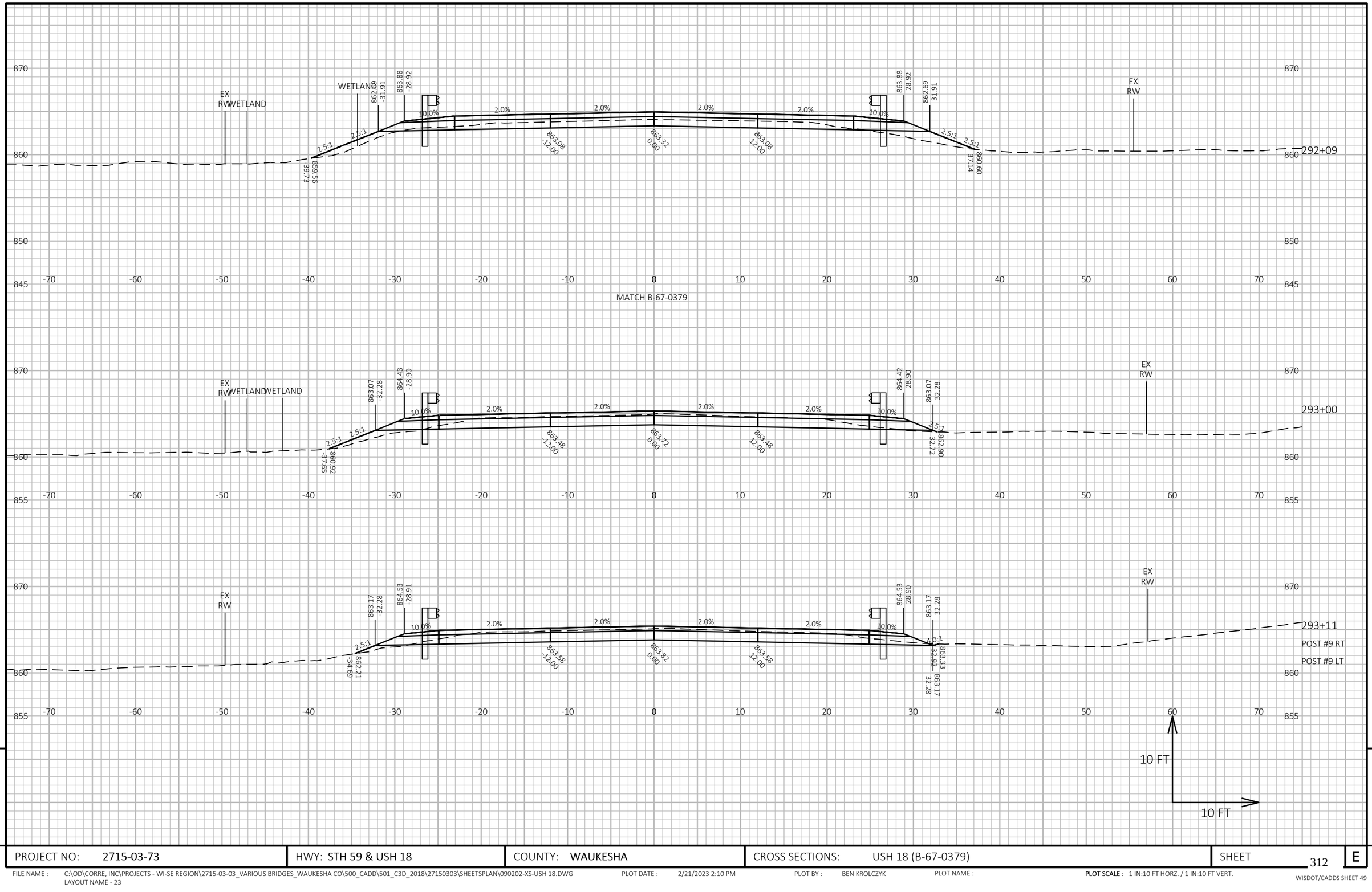



| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0379) | SHEET 311 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 22

PLOT DATE : 2/21/2023 2:09 PM PLOT BY : BEN KROLCZYK PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

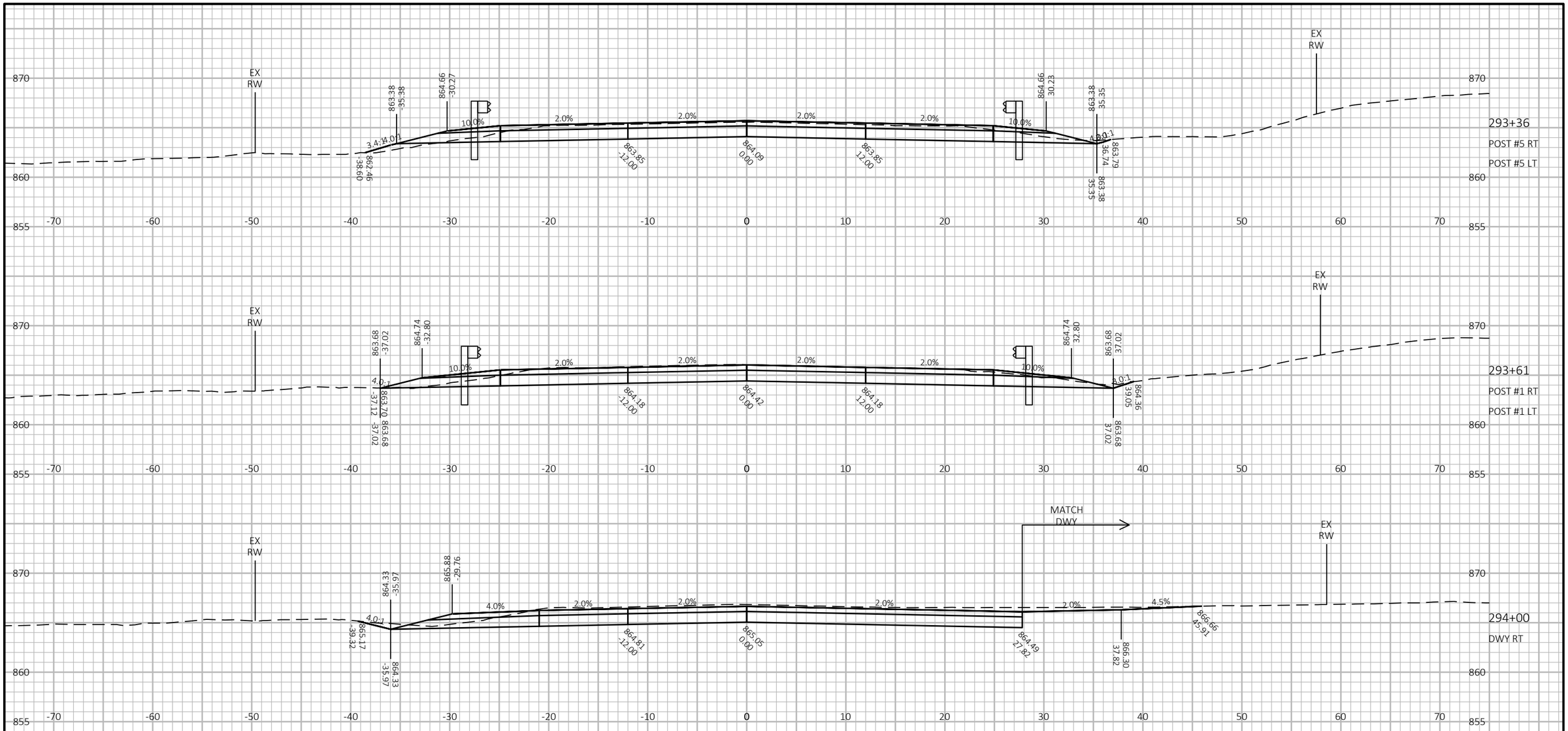
9

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0379) | SHEET 312 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 23

PLOT DATE : 2/21/2023 2:10 PM PLOT BY : BEN KROLCZYK PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

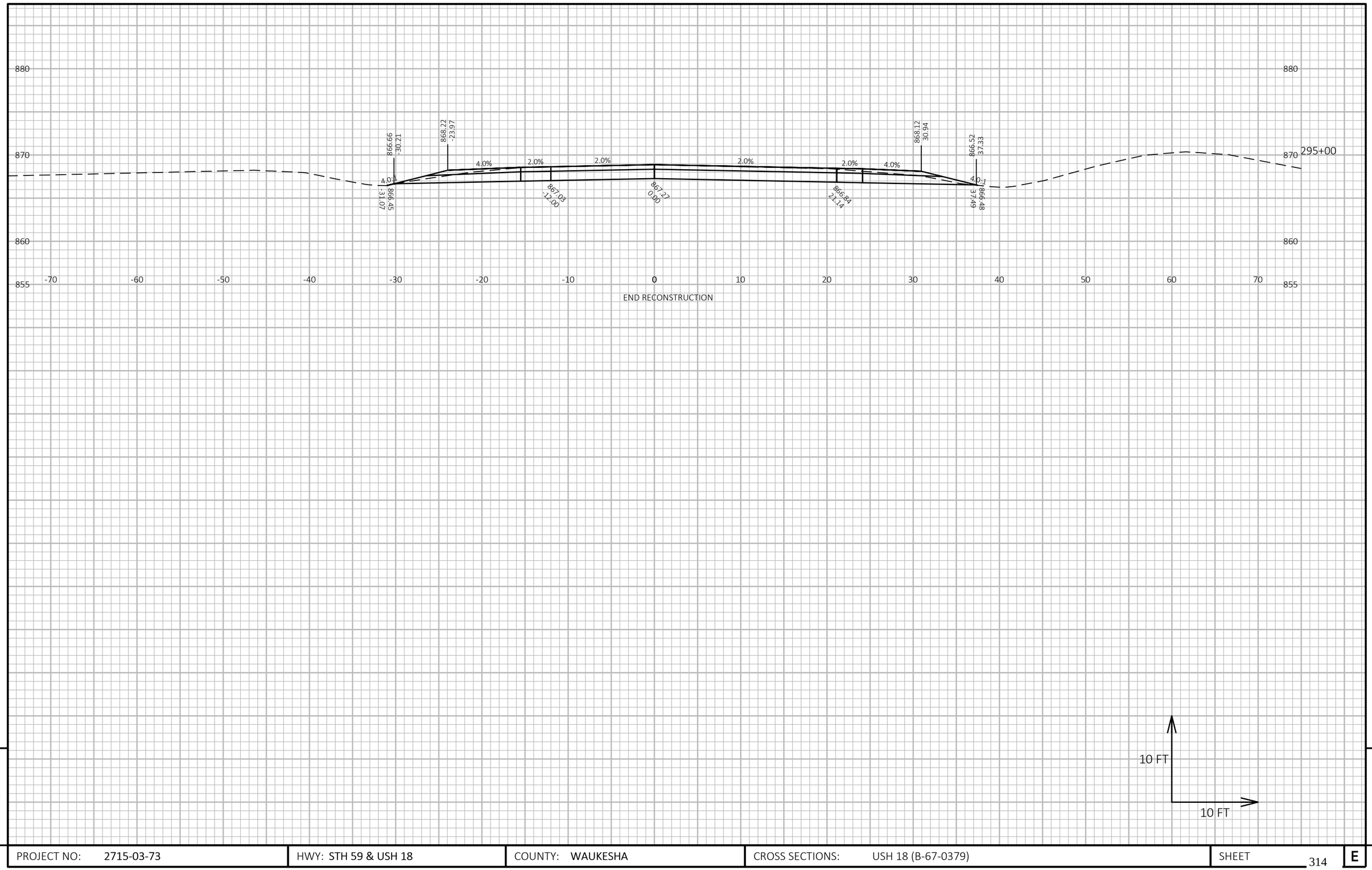
WISDOT/CADDS SHEET 49




9

| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0379) | SHEET 313 | E |
|---|---|---|---|---|---|

FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 24
PLOT DATE : 2/21/2023 2:10 PM
PLOT BY : BEN KROLCZYK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49




| PROJECT NO: 2715-03-73 | HWY: STH 59 & USH 18 | COUNTY: WAUKESHA | CROSS SECTIONS: USH 18 (B-67-0379) | SHEET 314 | E |
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FILE NAME : C:\OD\CORRE, INC\PROJECTS - WI-SE REGION\2715-03-03_VARIOUS BRIDGES_WAUKESHA CO\500_CADD\501_C3D_2018\27150303\SHEETSPLAN\090202-XS-USH 18.DWG
LAYOUT NAME - 25
PLOT DATE : 2/21/2023 2:10 PM
PLOT BY : BEN KROLCZYK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

Notes

**Wisconsin Department of Transportation**

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